NEW JERSEY FOOD MONITORING & EVALUATION PROGRAM
COMPREHENSIVE REPORT
APRIL 2004

PROJECT BACKGROUND

The New Jersey Food Monitoring & Evaluation Program (NJFMEP) was initiated in 2000 to address issues raised by the Federal Food Quality Protection Act of 1996. The project was designed to identify and catalog pesticide residues on fresh produce being grown and sold in New Jersey. While the project was initially envisioned to examine New Jersey grown produce exclusively, the scope has expanded to include fresh produce that is being sold in New Jersey, regardless of where it is grown. These non-New Jersey grown items make up a large percentage of the fresh produce available to New Jersey consumers. This project examines fresh produce from roadside markets, the first time such commodities have ever been monitored in New Jersey. We have expanded into other sampling venues throughout the four years of the project however roadside markets continue to be the focus.

The New Jersey Food Monitoring & Evaluation Program is intimately related to the Federal Food Quality Protection Act (FQPA). Accurate measurement of the pesticide residues present on various New Jersey grown crops will provide insight into actual pesticide residue levels as opposed to theoretical or calculated levels. Not only in this information critical in maintaining the quality of the food supply while also assuring risk estimates (tolerance levels or action levels) are not exceeded, it will also allow the New Jersey Department of Environmental Protection (NJDEP), Pesticide Control Program (PCP) to accurately determine pesticide exposure levels. Realistic assessments of proposed tolerance revisions will also be achieved utilizing the data collected through NJFMEP. NJFMEP is designed as a monitoring project since the PCP Laboratory can not achieve the sample processing turn-a-round time required of such projects. However, NJFMEP still has a compliance and enforcement component that requires non-compliant sample results to be investigated further, no matter when the results are turned over to the Bureau of Pesticide Compliance.

The data collected through NJFMEP will have direct relevance for local as well as national pesticide use and risk estimates. To this end, a multi-agency workgroup was established to provide PCP with support. In addition to the NJDEP, cooperators in the multi-agency workgroup include the United States Environmental Protection Agency (EPA), United States Food and Drug Administration (FDA), Rutgers Cooperative Extension, New Jersey Department of Health and Senior Services, New Jersey Department of Agriculture and various agriculture and grower groups throughout New Jersey. While this multi-agency group is looked to for technical guidance and suggestions and/or financial support, the PCP and NJDEP Management, as the project coordinator, maintain the lead position in the workgroup. The decision-making responsibilities regarding NJFMEP lie solely with the PCP and NJDEP Management.

SAMPLE COLLECTION

Since the project was initiated in the summer of 2000, a total of 260 samples have been collected and analyzed. The sampling scope has evolved over the four years of the project to include 18 different commodities typically grown in New Jersey. Of the 260 total samples collected, 79% of those samples were grown in New Jersey. This means that 21% of the samples collected were identified as being not grown in New Jersey (i.e. from another state, another country, or the origin was unknown). While New Jersey grown items remain the focus of the project, these non-New Jersey items will continue to be included because they make up a significant proportion of the fresh produce available to consumers at roadside markets.

The eighteen target commodities and the number of each commodity collected are shown in Table 1 below. The PCP selected these particular commodities not only because they are typically grown in New Jersey, but also to lengthen the potential sampling season. These items allow for a sample collection period from May through November. This large sampling period allows PCP staff to collect samples during the peak season for each commodity. In addition, the large sampling period provides for adequate spacing of sample collections to ensure the samples can be processed in a timely manner by the PCP Laboratory.

Table 1. Summary of All Samples Collected (2000-2003)

Commodity	NJ Grown	Non-NJ Grown	Total Number Collected
Apples	14	10	24
Asparagus	25	1	26
Blueberries	15	2	17
Broccoli	3	0	3
Cauliflower	2	1	3
Cherries	1	3	4
Cucumbers	9	4	13
Eggplant	8	3	11
Lettuce	8	2	10
Onions	1	6	7
Peaches	13	3	16
Peppers	20	5	25
Potatoes, White	2	0	2
Squash	15	4	19
Strawberries	12	3	15
Sweet Corn	19	3	22
Sweet Potatoes	3	2	5
Tomatoes	35	3	38
Totals	205	55	260

Roadside markets, while not the only sample collection site, continue to be targeted for sample collection. Over the four years of the project, 117 roadside markets have been visited throughout New Jersey. Seventeen of New Jersey's 21 counties have been visited.

The PCP has noted that there are several "staple" commodities routinely found at roadside markets in New Jersey, regardless of the actual harvest period for these crops. Items such as apples, cucumbers, peaches, peppers, squash, and tomatoes tend to appear at roadside markets throughout the entire growing season. The draw of fresh produce from roadside markets puts these staples in demand on a daily basis, in addition to any other specialty crops being harvested at that time. Apples, for example, are always in demand, which is illustrated by the fact that almost half of the apple samples collected are non-NJ grown. In other words, roadside markets in New Jersey will go so far as to sell non-NJ grown items to ensure that these staples are available throughout the growing season.

Collection sites are selected based on the harvest period for the target commodities. PCP utilizes roadside market databases maintained by New Jersey Department of Agriculture and the New Jersey Farm Bureau to identify roadside markets that sell the commodity being targeted at a given point during the season. Once these sites are identified, the NJFMEP Coordinator attempts to select sites in counties that are not well represented in the list of sites PCP has already visited. However, in the interest of maximizing sample collection efficiency, some of New Jersey's 21 counties continue to be underrepresented. In order to maximize the time spent in the field, areas with a large number of potential collection sites are often targeted to ensure that a day spent in the field will result in the collection of samples. Often this eliminates certain counties, such as Union and Hudson, which have very few roadside markets.

Chart 1 (Appendix A) illustrates the percentage of samples collected in each county compared to the percentage of roadside markets in that county. Monmouth, Burlington, Hunterdon, Atlantic and Sussex Counties account for approximately 43% of the roadside markets in New Jersey. These numbers are drawn from the New Jersey Department of Agriculture's Roadside Market Directory. (It should be noted that this is not a complete list, but provides the PCP with a solid starting point when selecting collection sites.) The chart shows that the percentage of samples collected in Monmouth, Burlington and Atlantic Counties are a good representation of the percentage of roadside markets in these counties. However, the percentage of samples collected in Hunterdon and Sussex Counties do not adequately portray the percentage of roadside markets in those counties. Chart 1 also indicates that in Camden, Gloucester, Mercer and Ocean Counties, nearly two times the number of samples were collected when compared to the number of roadside markets in those counties.

It is also interesting to note that while Atlantic and Monmouth Counties have relatively low acres of land farmed when compared to the rest of the State, they account for 18% of the roadside markets in New Jersey. The PCP has observed that many of the roadside markets in New Jersey are not necessarily direct marketing outlets for a grower. The markets are instead a function of seasonal vacation traffic. A retailer will purchase produce from a local grower, a local produce co-op, or a terminal market (e.g. New York or Philadelphia) and set up a market in an area that is heavily traveled during the growing season. Such is the case in Atlantic and Monmouth

Counties, which are heavily traveled by vacationers heading to the beach during the peak of the growing season.

Organic farms were added as sampling sites in 2002. Three certified organic farms have been visited since then, with a total of 10 organic samples collected. The organic commodities collected include the following: asparagus, blueberries, eggplant, lettuce (2 varieties), peppers (3 varieties), strawberries and tomatoes.

PCP also incorporated farmers' markets as sampling sites in 2003. Farmers' markets are usually located in urban areas and operate once a week throughout the growing season. This provided PCP with an opportunity to sample multiple growers at one location. In addition, many of the growers participating in farmers' markets do not have a roadside market which means this is the only opportunity for consumers to purchase the grower's fresh produce directly. Only one farmers' market was visited in 2003, but PCP plans to rely more heavily on these sites for sample collection in the future.

While some minor modifications have occurred since NJFMEP began in 2000, the sample collection procedure has remained basically the same. A representative of PCP, under the direction of the NJFMEP Coordinator, selects a roadside market based on the harvest period for the target commodities. The PCP staff member identifies themselves as a representative of the State and asks to speak with the owner/responsible applicator/manager of the site. The sampler is required to explain the project to the site contact, emphasizing that NJFMEP is intended to be a cooperative effort between growers and/or roadside market operators and the PCP, and that they can be compensated for the samples collected with a check issued by the State and sent through the mail. While this is primarily a monitoring project, it is important that the participant understands that non-compliant sample results may result in an enforcement follow-up action conducted by the Bureau of Pesticide Compliance (BPC).

Once an understanding of the project and its goals have been established, the sampler will collect approximately 3 pounds of the target commodity. While 3 pounds is the general guideline, a minimum suggested sample size for each of the eighteen commodities was established in 2003. The sample is placed inside a clean, unused brown-paper bag and then wrapped in a plastic bag. The sample is labeled with a standard sample number format. This standard format allows the NJFMEP Coordinator to easily track the samples collected. The samples are transported to the laboratory in dedicated, chilled coolers. The attached Sampling Standard Operating Procedure (SOP) (Appendix B) provides further details regarding sample collection.

SAMPLE PROCESSING

Once the samples arrive at the lab, a laboratory control number is assigned to each sample and the sample information is entered into the PCP Sample Tracking Database. Laboratory personnel extract samples as quickly as possible to ensure that the sample does not spoil before it is processed. The NJFMEP Coordinator communicates with the laboratory staff on a regular basis to determine the optimal time for submission of commodity samples. This coordination typically allows for the samples to be extracted within two days of submission to the laboratory.

The extraction process is constantly evaluated by the PCP Laboratory staff and NJFMEP Coordinator. Extraction methods are assessed with respect to how labor intensive the process is and, more importantly, the efficiency of recovering targeted analytes. It should be noted that even though the extraction process has been modified several times since the beginning of the project, one component has remained unchanged—samples are not washed or rinsed to remove debris before they are extracted. The extraction method currently used is detailed in the SOP entitled "Preparation of Pesticide Residue Extracts from Fruit and Vegetable Samples Using Liquid Solid Phase Extraction (C18, Envi-Carb, Amino propyl)". The SOP is attached as Appendix C.

The multi-residue extracts are analyzed by a gas chromatograph/mass spectrometer (GC/MS) for a large list of targeted pesticide compounds consisting of fungicides, herbicides, and insecticides from various chemical families. The current GC/MS scan consists of 298 different pesticide residues. Included in the scan are metabolites of Atrazine (Des-Ehtyl Atrazine) and DDT (DDD and DDE). Metabolites of other current use and environmental contaminants can be analyzed for upon request and will be added to the scan over time. In addition to the targeted compounds, unknowns will be looked at with the intention of identifying potential pesticides using mass spectral library searching and interpretation. The GC/MS will be operating in the full scan and SIMS (selected ion monitoring scan) modes. The list of targeted analytes and reporting levels currently part of the GC/MS scan is attached as Appendix D.

SAMPLE RESULTS

Of the 260 samples collected and analyzed in the four monitoring seasons, 118 of these samples had at least one residue detection. This results in 45% of samples with a residue detection. The USDA Pesticide Data Program (PDP) reported for their 2000 season a total of 8,140 samples processed. Of these samples, 5,842 samples had detectable residues, indicating that 72% of the samples processed had a residue detection. While our sample size is greatly reduced compared to the PDP, this number provides us with a useful comparison to a national sampling program.

While 45% of the samples collected had a least one residue detection, only 1% (3 samples) exceeded a regulatory standard or guideline. One asparagus sample was identified as having Norfluarzon just above the EPA tolerance level. Dieldrin was identified on two squash samples at levels just above the FDA Action Level. (For more information regarding these samples, see the section entitled "Compliance and Enforcement Activities").

During the four seasons of sample collection, PCP sample collectors have observed that certain commodities appear more frequently than others at roadside markets throughout New Jersey. While all of the 18 targeted commodities are grown in New Jersey and do appear at roadside markets, some items routinely appear at New Jersey's roadside markets. As mentioned previously, these staple items include apples, cucumbers, peaches, peppers, squash, and tomatoes. Although not staple items, strawberries and sweet corn have a very strong following among roadside market patrons. New Jersey residents anxiously await the arrival of fresh strawberries and sweet corn at their local roadside market. The routine appearance of staple items and popularity of strawberries and sweet corn is evident by the number of each of these

commodities that has been collected. These eight commodities comprise 66% of the total number of samples collected. Chart 2 (Appendix A) shows the percent of samples with detections for each commodity. Sweet corn has a very low percentage of samples with detections. This may be due in part to the fact that the husk is removed during the sample processing and only the kernels are extracted. The high percentages of samples with detections for tomatoes, cucumbers, squash and strawberries may be due to their susceptibility to the generally moist growing conditions found in New Jersey or increased pest pressures. With such small sample sizes compared to national programs, it is very difficult to assess real trends among the data. In order to produce statistically valid data and assess real trends in pesticide use, NJFMEP must be established as a long-term monitoring project.

Chart 3 (Appendix A) shows the number of each commodity collected compared to the number of samples with at least one detection for that commodity. For the remaining 10 targeted commodities, the percentage of samples with detections ranged from 0 to 100%. However, the number of each of these commodities collected is relatively small compared to the most popular New Jersey items, which may tend to misrepresent the data.

Another component of the data worth examining is the number of samples in each commodity group with multiple residue detections. Looking at the most popular New Jersey items, strawberries have the highest percentage of samples with multiple residue detections (53%). Peaches also have a relatively high percentage of multiple residue samples with 38%. Apples, cucumbers, peppers, squash and tomatoes range from 17% to 26%. Chart 4 (Appendix A) provides further detail on samples with multiple residue detections.

Twenty-eight different pesticide compounds have been identified, with a total of 194 residue detections over the four sampling seasons. Chlorothalonil out-numbered all other residues detected with a total of 37 detections out of the total number of residues detected (19%). Twenty-one of these 37 detections were identified on tomatoes.

Bifenthrin, a relative new synthetic pyrethroid with limited registered uses, made up 11% of the total number of residues detected. This compound has proved to be troublesome for growers in that is does not appear to behave under environmental conditions in the same manner as most other synthetic pyrethroids. Bifenthrin tends to have a higher than expected adherence to plant material (more “sticky”) and be longer lasting than most other compounds in its class. In 2001 and 2002, 18 low-level detections of Bifenthrin were identified, 7 of which were non-compliant. Asparagus (3 samples) and tomatoes (4 samples) were the commodities identified with non-compliant detections of Bifenthrin. After extensive outreach efforts to alert growers of the potential problems with this compound migrating to non-target crops through drift or the harvesting and packing process, the number of Bifenthrin detections was reduced to only 4 in 2003. Of these 4 detections, only one non-compliant Bifenthrin residue was detected on asparagus. One strawberry and two tomato samples also showed Bifenthrin residues. Bifenthrin was registered for use on tomatoes in April of 2003 so these residues were in compliance.

Phosmet and Captan, two popular tree fruit pesticides, accounted for another 16% of the total residue detections (8% each). Phosmet and Captan were detected mainly on apples and peaches. The remaining compounds detected (other than environmental contaminants) each account for

approximately 5% or less of the total residue detections. Chart 5 (Appendix A) provides further detail on the individual compounds detected.

Of the total number of residue detections, 16% were environmental contaminants including DDT, DDD, DDE and Dieldrin. The NJFMEP has adopted the USDA designation of "environmental contaminant" to describe pesticides that are no longer in use and have a long-term residence in the environment. Such pesticides are no longer associated with any tolerance levels. In lieu of tolerances, USDA has adopted a set of action levels associated with these pesticides. Compounds such as DDT and Dieldrin have not been used in agriculture in New Jersey for over 30 years. Since these pesticides have long half-lives in the environment, they still remain in the soil throughout New Jersey and will remain there until they have degraded completely. Furthermore, we will likely find metabolites of these compounds long after the parent compounds have degraded.

The 1999 USDA PDP reported that 4.7% of the 6,867 samples tested showed detections of DDE. The PDP's 4.7% is comparable to the 5% of samples collected as part of NJFMEP that showed detections of DDE. Detections of environmental contaminants are typically found on commodities such as cucumbers, squash, potatoes (both sweet and white) and lettuce. These commodities are grown directly on the soil or grow in such a way that soil can become trapped in its leaves (e.g. lettuce). The 2000 USDA PDP reported that 16.3% of the cucumber samples they tested showed detections of Dieldrin, while 38% of the NJFMEP cucumber samples had Dieldrin residues. It should be noted again that commodity samples are not washed in any way to remove surface debris during the extraction process. It is most likely that the environmental contaminants are carried in the soil remaining on the commodity after it is harvested.

Of interest is that while these environmental contaminants are routinely present in New Jersey soil, the 10 organic commodity samples collected showed no residue detections of any kind, including environmental contaminants. These operations must certify their soil to be pesticide free for a certain number of years before their produce can be certified organic. Organic operations will continue to be monitored as part of NJFMEP.

Overall, the residue detections identified are well below the established tolerance levels (or action levels). In fact, the majority of the detections are just above the reporting levels of the GC/MS scan. The detections of Chlorothalonil on tomatoes are a good illustration of this point. The reporting level for Chlorothalonil in the GC/MS scan is 0.002 ug/g. The range of detections for Chlorothalonil on tomatoes is 0.0034 – 0.81 ug/g. The tolerance for Chlorothalonil on tomatoes is 5.0 ppm (ug/g). Even the highest detection of 0.81 ug/g is far below the tolerance. Chart 6 (Appendix A) provides a graphic representation of this information. Bifenthrin can also be used as an example. The reporting level for Bifenthrin is 0.002 ug/g. The range of detections for Bifenthrin on strawberries in 0.012 – 0.091 ug/g. Even the highest detection of 0.091 ug/g falls well below the tolerance of 3.0 ppm (ug/g). Chart 7 (Appendix A) highlights this information. When the data for the four years is examined, this tends to be the case for most of the compounds detected.

COMPLIANCE AND ENFORCEMENT ACTIVITIES

As stated previously, this project was initiated to catalog the actual pesticide residue levels on fresh produce being sold at roadside markets in New Jersey. However, as the state lead agency for the regulation of pesticides, the PCP is obligated to determine whether sample results are within compliance of any applicable regulatory standards. The PCP uses tolerance levels established by EPA to evaluate commodity sample results. A tolerance is the amount of pesticide that may remain in or on food commodities and are set based on risk assessments examining human exposure to the pesticide through consumption of the commodity. Environmental contaminants, such as DDT and Dieldrin which are commonly found on certain types of commodities, typically do not have tolerance levels. As noted, Action Levels are used for comparison when environmental contaminants are detected.

While the majority of the pesticide residue detections are well below any applicable standards, there are cases where non-compliant residues are detected. The PCP has encountered three different categories of non-compliant sample results since the project began in 2000. Non-compliant sample results are categorized as follows:

1. Exceedance of a tolerance level (or other applicable regulatory guideline)
2. Possible misapplication of a current use pesticide
3. Detection of an environmental contaminant (DDT, Dieldrin, etc.)

Of the 260 samples collected and analyzed, 23 samples were identified as non-compliant (9% of the samples). Only 1% of the samples (3 samples) exceeded a regulatory standard or guideline. The rest of the non-compliant samples were very low levels and identified as a possible misuse of a current use pesticide or an environmental contaminant with no regulatory guideline for that particular commodity. The three samples exceeding a regulatory guideline included one tolerance exceedance and two Action Level exceedances. Table 2 describes these three samples.

Table 2. Samples with Results Above Regulatory Guidelines

Commodity	NJGrown	CollectionDate	Analyte	Concentration (ug/g)	Tolerance (ppm)
Asparagus	Yes	5/14/03	Norflurazon	0.07	0.05
Squash	Yes	7/8/02	Dieldrin	0.19	0.1[AL]
Squash	Yes	8/23/02	Dieldrin	0.11	0.1[AL]

[AL] – Action Level established by FDA.

The 23 non-compliant samples were turned over to the Bureau of Pesticide Compliance (BPC) for further investigation. This resulted in the establishment of 12 enforcement cases (some cases include multiple samples from the same grower). The process of referring non-compliant sample results to the BPC is outlined in the Results SOP (Appendix E). The NJFMEP Coordinator consulted with the BPC as to the extent of the follow-up deemed necessary but the final decision

regarding the investigation was BPC's responsibility.

Appendix F is a complete listing of all sample results accumulated since 2000.

OUTREACH EFFORTS

An integral component of this monitoring project has been our commitment to relaying sample results to the site from which the sample was collected. A letter is generated by the project coordinator once sample results are completed. The letter includes the residue detections and a comparison to any applicable standards. This follow-through has proved to be invaluable in gaining the support of agriculture at both the State and local levels. This has lead to invitations from agricultural organizations throughout the State for PCP staff to present annual project updates at meetings and conventions. Some of these groups include the New Jersey Farm Bureau and the Vegetable Growers Association of New Jersey.

The workgroup established at the beginning of the project has also lead to very profitable relationships with the agricultural community at both the State and local levels. Our contacts at the New Jersey Department of Agriculture have provided PCP staff with opportunities to interact with groups they facilitate, such as the New Jersey Direct Marketers Association and the New Jersey Council of Farmers and Communities (NJCFC). Our relationship with NJCFC lead to the expansion of our sampling venues to include the urban farmers' markets.

We have also established a Partnership with the New Jersey District of FDA. FDA purchased supplies and equipment then provided them to the PCP for use in this program. These purchases included a laptop computer, projector and other peripheral accessories to enhance outreach efforts and facilitate sample collection in the field. Also provided were critical supplies for the processing of commodity samples in the laboratory. In addition to the financial support provided through the Partnership, the PCP looked to FDA for guidance during the investigation of the tolerance exceedence in 2003. Our Partnership with FDA has been renewed for the 2004 season and again includes funding for laboratory supplies necessary for sample processing.

The analytical capabilities of the laboratory demonstrated through NJFMEP initiated a cooperative research project between the PCP and Rutgers Cooperative Extension, another member of the workgroup. The project examined mating disruption strategies to reduce pesticide residues on New Jersey peaches. This IPM project was a great success and several scientific papers are in press or in development.

CONCLUSION

After four years of sample collection and processing, only 1% of the samples collected were in violation of a tolerance level or guideline. Furthermore, the majority of the remaining residue detections were well below the established guidelines (as illustrated by Charts 6 and 7 in Appendix A). The data collected through NJFMEP demonstrates the high quality of the produce being sold at roadside markets throughout New Jersey.

As this project moves forward into its fifth year of sample collection, the project managers continue to look to our partners for guidance and support. Internal evaluation of this project is constant within the PCP. There is an ongoing effort to improve the sample collection and processing procedures. The process for collection site targeting will most likely remain unchanged unless additional resources are allotted to NJFMEP. Bureaucratic necessities, such as the payment voucher system for sample reimbursement, will remain a hindrance to more efficient sample collection. Fortunately, as NJFMEP continues to grow and outreach efforts increase, sample collection is expedited because many of the people encountered at the roadside markets have already heard of the program, reducing the time required to explain the goals of the project. The laboratory will evaluate new methods to increase the turn around time for sample processing in hopes of increasing the number of samples the laboratory can process in a growing season. Despite these efforts, without an increase in analytical capacity and personnel to collect, process and analyze the samples, the carrying capacity for commodity samples may have been reached.

APPENDIX A

CHARTS

Chart 1. % of Total Samples Collected Compared to % of Roadside Markets in NJ (By County)

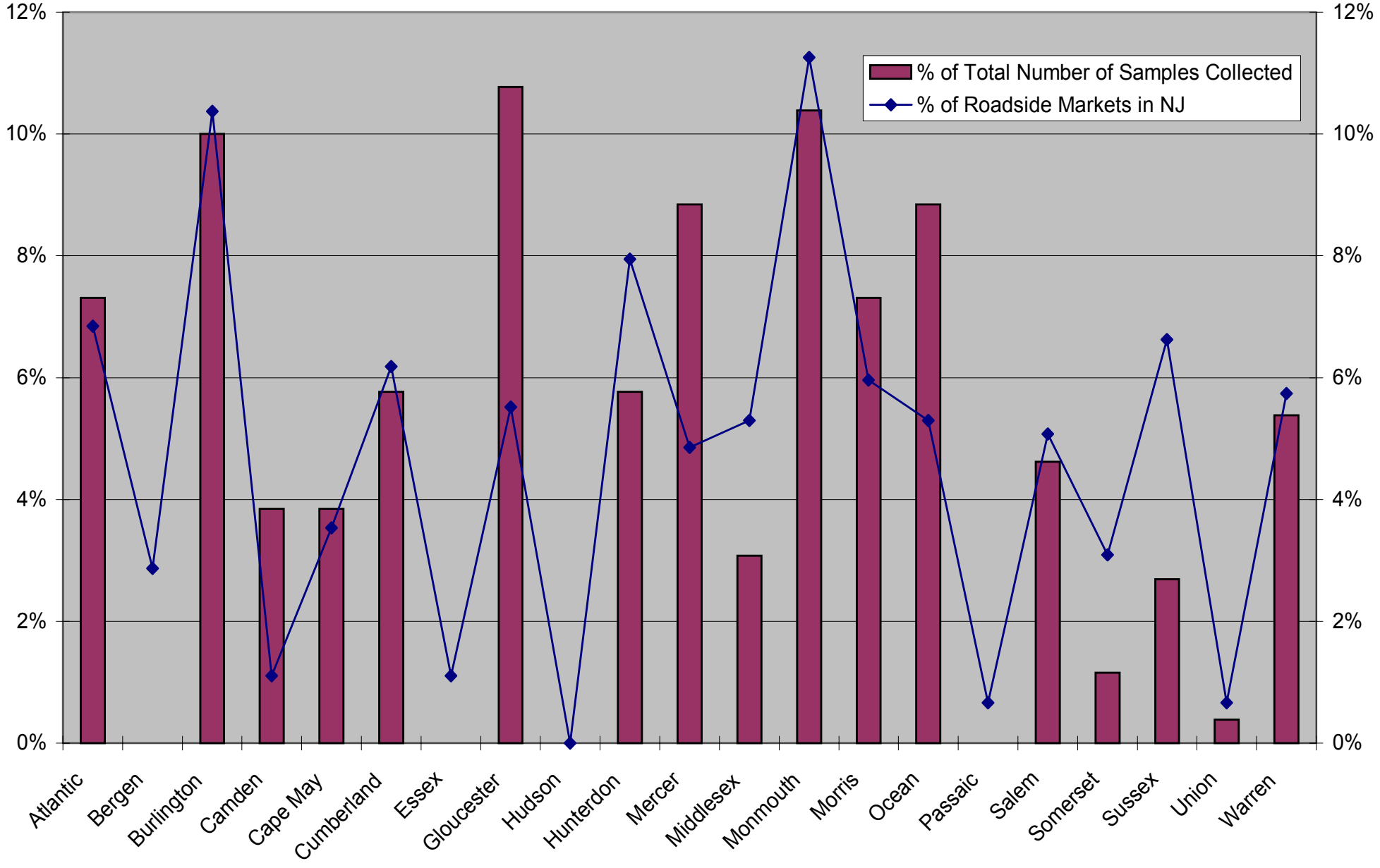


Chart 2.

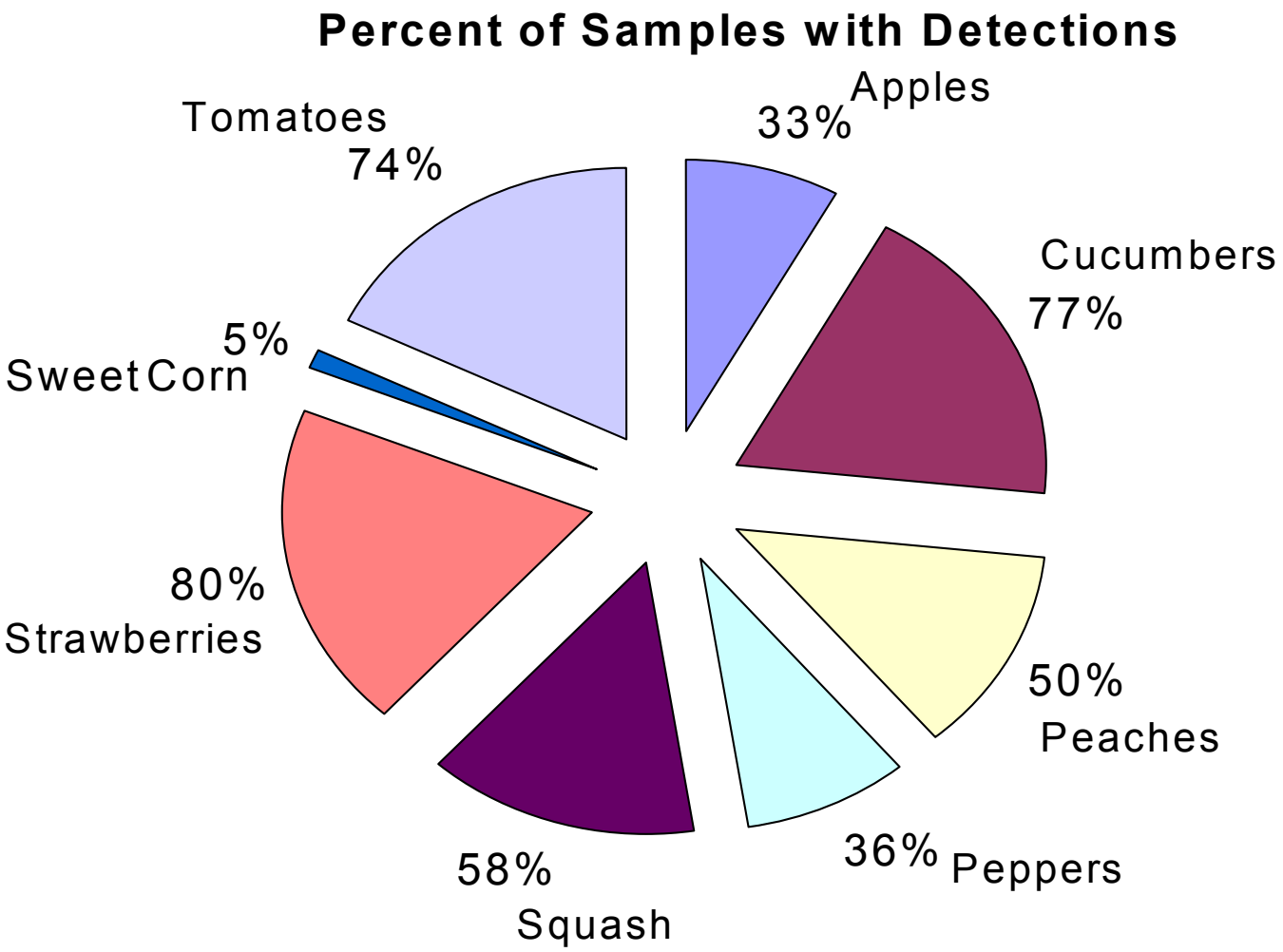

Percent of Samples with Detections
Apples
33%
Cucumbers
77%
50%
Peaches
36%
Peppers
58%
Squash
80%
Strawberries
5%
Sweet Corn
Tomatoes
74%

Chart 3. Total Number of Samples with At Least One Detection

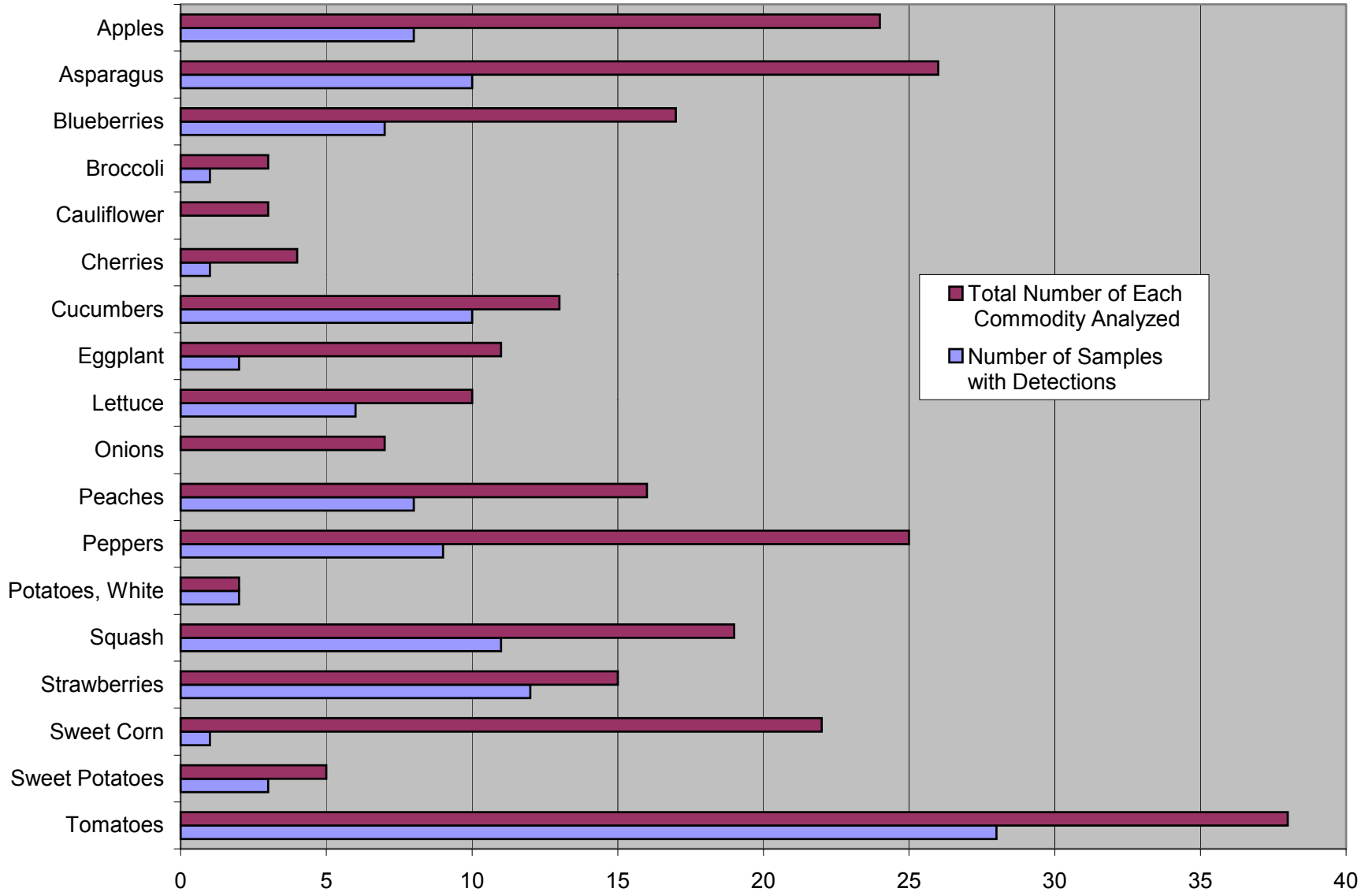


Chart 4. Samples with Multiple Residue Detections

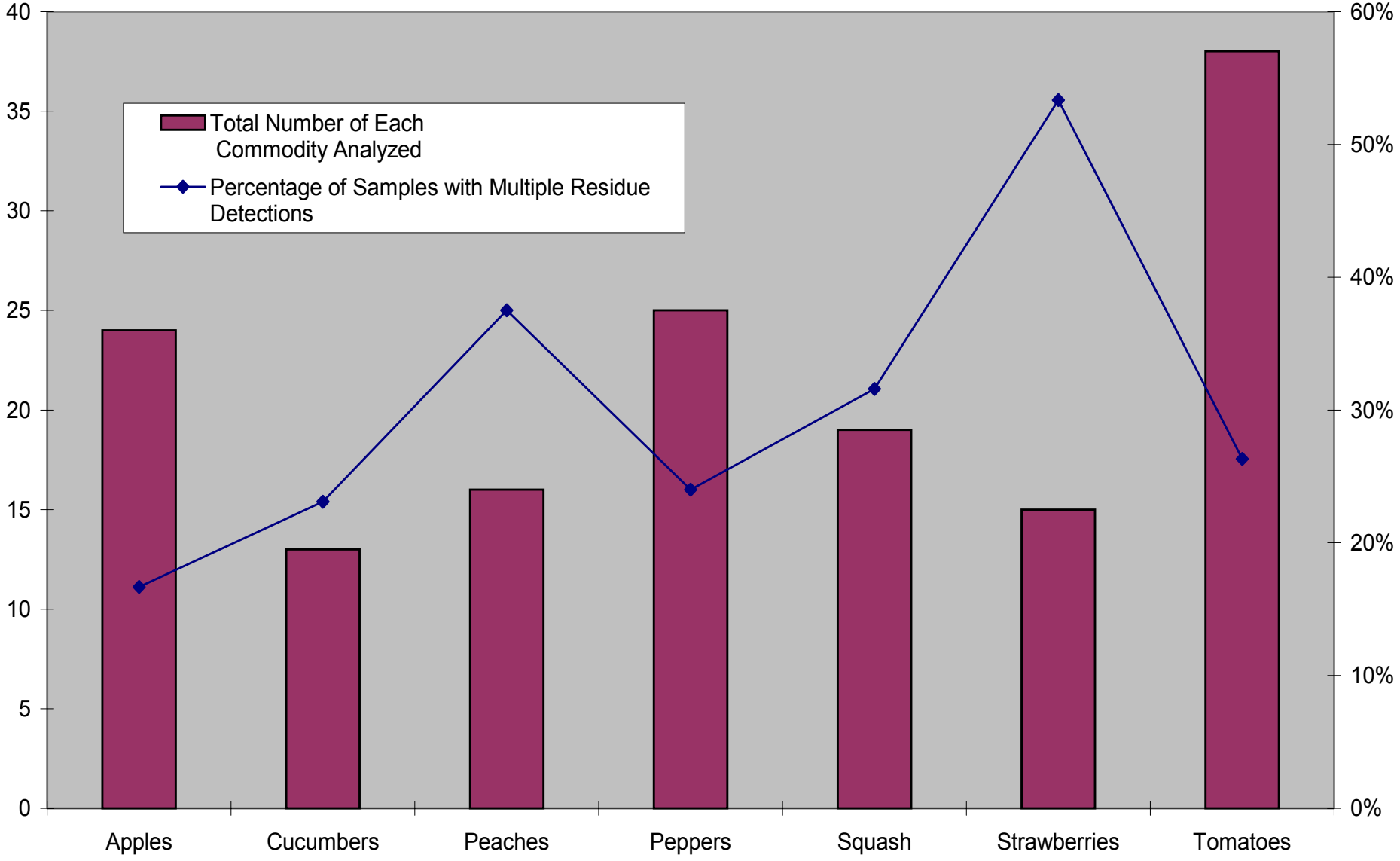


Chart 5. Compounds Detected as Percentage of Total Detections

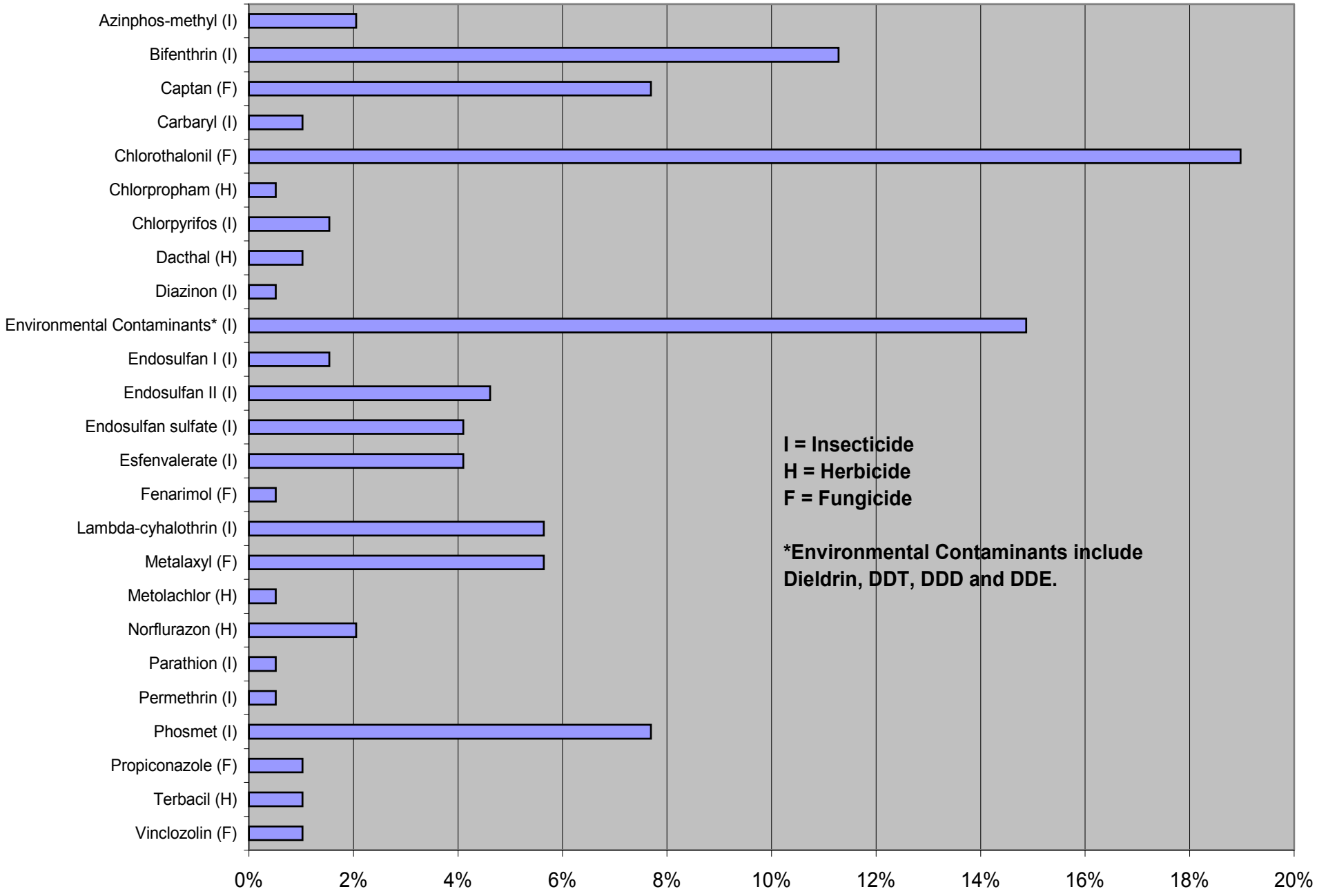


Chart 6.

Chlorothalonil on Tomatoes

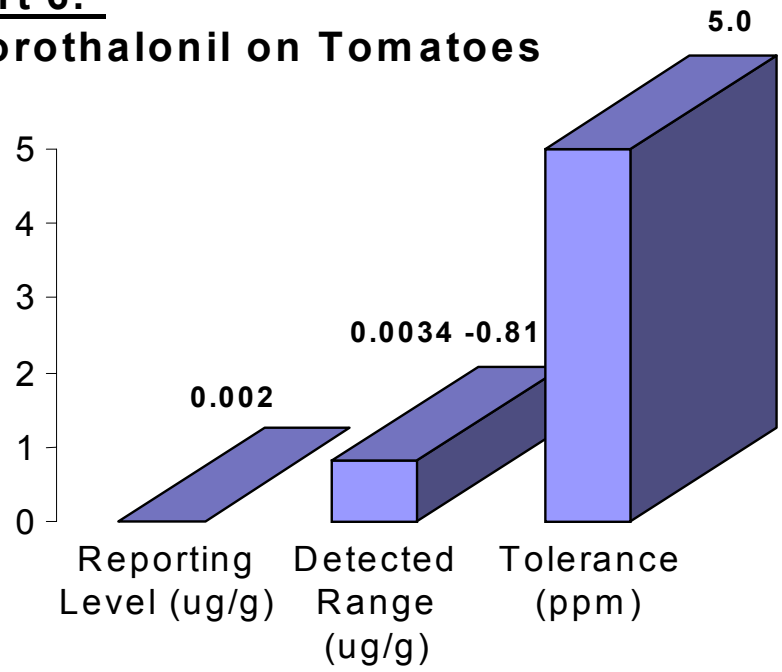
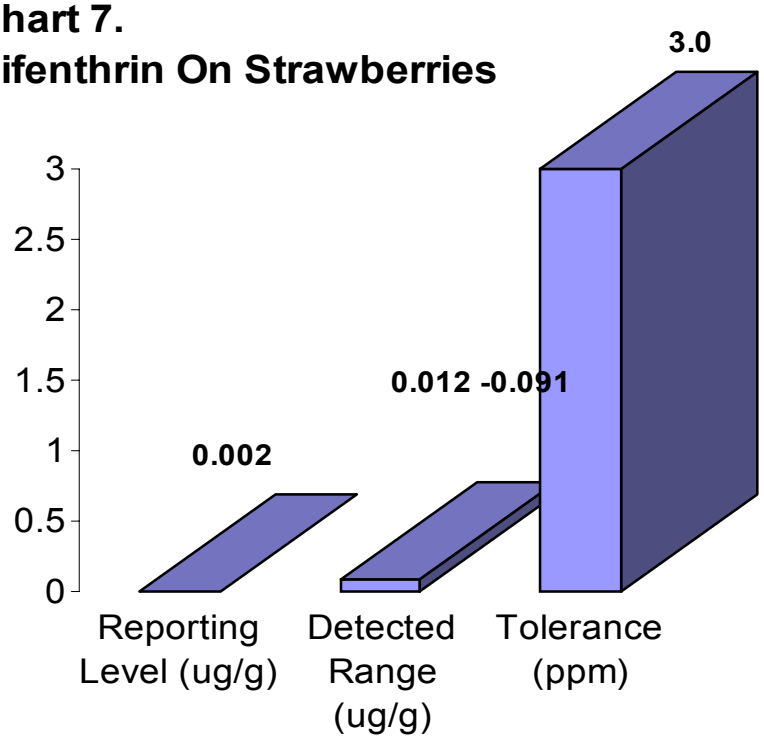


Chart 7.

Bifenthrin On Strawberries



APPENDIX B

NJFMEP SAMPLING SOP

New Jersey Food Monitoring and Evaluation Program
Sampling SOP

Target crops, number of samples and sampling locations will be determined by the New Jersey Food Monitoring and Evaluation Program (NJFMEP) Coordinator on a weekly, monthly or as needed basis. Upon arrival at the sampling location, the sampler will determine if the target crop(s) are available.

If a target crop is available, the sampler will identify himself or herself as a representative of the New Jersey Department of Environmental Protection (NJDEP), Pesticide Control Program and present proper identification. Such identification can be an NJDEP-issued badge, State of NJ ID or business card. The sampler will first ask to speak with the owner or responsible applicator for the farm operation. If the owner or responsible applicator is not available, the sampler will ask to speak with the person in charge.

Once the contact person at the site has been identified, the sampler will state the following:

1. The New Jersey Food Monitoring and Evaluation Program has been initiated to catalog what residue levels are present on produce being sold and consumed in New Jersey, even if they are below the current tolerance (or allowable) levels. The information obtained through these samples will help determine the impact of any Food Quality Protection Act tolerance levels changes. In addition, the PCP will have the information available to help maintain agriculture by aiding in the establishment of new or revised tolerance levels.

2. Even if a particular crop is being imported from another state for sale in New Jersey, it may be included in the sampling. We are targeting what is being sold and consumed in New Jersey, regardless of where it is grown. However, if the option presents itself, New Jersey grown crops are the priority.

3. The PCP will forward a copy of the analytical results for the sample(s) taken from a particular location to the owner/responsible applicator of that location. Once the results are found to be within compliance, these results can be used as a "selling point" for the owner/responsible applicator. This information will also help farmers adjust to new tolerance levels or product cancellations as a result of FQPA. Questionable results will prompt appropriate follow-up (refer to Results Letters/Follow-UP SOP).

4. The owner of the sampling location can be compensated for the produce at the current rate of sale at that particular location. The owner/responsible applicator must fill out a W-9 form and payment voucher to receive a check through the mail. In order to complete the forms, the sampler must be supplied with the owner/responsible applicator's tax identification number or social security number and each form must be signed. If a social security number is provided, the signature must correspond to the social security number. A written receipt completed by the sampler must also accompany the payment voucher. The yellow copy of the receipt is given to the owner/responsible applicator.

5. Provide the manager/owner with the name and phone number of the NJFMEP Coordinator.
   Anne Rush
   (609) 530-8009

If the owner/responsible applicator agrees to provide a sample, the sampler should obtain approximately 3 pounds of the target crop (see Appendix A "Minimum Suggested Sample Size"). The sampler will place the sample in a paper bag. (Bruised or damaged pieces should be avoided as this may interfere with the analytical processing.) The paper bag should then be wrapped in a plastic bag and labeled with the Sample Number. The Sample Number should be designated as follows:

Two Letter Commodity Code - Day, Month, Year - Sample # for that day

For example, TO-061500-1 indicates that the first sample collected on June 15, 2000 was a tomato sample. Indicate the two-letter commodity code with CAPITAL LETTERS. If two samplers are collecting on the same day and both collect tomatoes as their first sample, one of the samplers should add an "A" at the end of the sample number to differentiate the two samples. For example, TO-061500-1 and TO-061500-1A. The two letter commodity codes can be found in Appendix B.

Should the owner/responsible applicator of the roadside market refuse to provide a sample, the refusal, along with any explanations offered, should be communicated to the NJFMEP Coordinator. At the time of the refusal, the sampler should inform the owner/responsible applicator that refusal to provide a sample may result in possible follow-up and inspection by the Bureau of Pesticide Compliance. If the owner still does not agree to provide a sample, the sampler will gently advise the owner/responsible applicator that while this is a cooperative effort, however, the sampler does have the authority to collect a sample under NJDEP PCP Regulations.

If the owner/responsible applicator of the roadside market is not available and a refusal occurs, the sampler should not insist on collecting a sample at that time. The sampler should request the name and phone number of the owner/responsible applicator and inform the site contact that the NJFMEP Coordinator may follow-up with the owner in order to arrange sample collection.

Sample information will be recorded on the "New Jersey Food Monitoring and Evaluation Sample Collection Form" (see Appendix C). A separate form should be used for each different collection site. A maximum of three samples can be recorded on one form. Dedicated coolers will be used to keep the samples on ice during transport to the lab. Upon arrival at the laboratory, the sample custody will be signed over to the laboratory staff and the sampler will enter the sample information into the PCP Sample Tracking Database. Collection Forms, along with payment documents, will then be turned over to the NJFMEP Coordinator.

If you have any questions consult the NJFMEP Coordinator, Anne Rush, at (609) 530-8009.

APPENDIX A

Minimum Suggested Sample Size

As stated in the New Jersey Food Monitoring and Evaluation Program (NJFMEP) Sampling SOP, approximately 3 pounds of the target crop should be collected for a sample. This is a guideline. The sampler must keep in mind that a commodity sample is processed by creating a composite from the individual pieces in the sample. Therefore, an adequate number of pieces must be collected. The Sampling SOP was designed for sample collection at roadside markets where commodities may be pre-packaged. The following table lists suggested sample sizes for NJFMEP targeted commodities:

Commodity	Minimum Suggested Sample Size	Commodity	Minimum Suggested Sample Size
Apples	8 pieces	Onions	8 pieces
Asparagus	2 bunches	Peaches	8 pieces
Blueberries	2-3 pints	Peppers	8 pieces
Broccoli	3 heads	Potatoes	8 pieces
Cauliflower	3 heads	Squash	8 pieces
Cucumbers	8 pieces	Strawberries	2-3 pints
Eggplant	6-8 pieces	Sweet Corn	6-8 ears
Lettuce	3 heads	Tomatoes	8 pieces

APPENDIX B

Two Letter Commodity Codes

The Sample Number should be designated as follows:

Two Letter Commodity Code - Day, Month, Year - Sample # for that day

For example, TO-061500-1 indicates that the first sample collected on June 15, 2000 was a tomato sample. Indicate the two-letter commodity code with CAPITAL LETTERS. If two samplers are collecting on the same day and both collect tomatoes as their first sample, one of the samplers should add an "A" at the end of the sample number to differentiate the two samples. For example, TO-061500-1 and TO-061500-1A.

The commodity codes are listed below:

Commodity	Code
Asparagus	AS
Apples	AP
Blueberries	BL
Broccoli	BR
Cauliflower	CA
Cherries	CH
Cucumbers	CU
Eggplant	EG
Lettuce	LE
Onions	ON
Peaches	PE
Peppers	PP
Potatoes, White	PO
Squash	SQ
Strawberries	ST
Sweet Corn	SW
Sweet Potatoes	SP
Tomatoes	TO

APPENDIX C

PCP LABORATORY SAMPLE PREPARATION SOP

Preparation of Pesticide Residue Extracts from Fruit and Vegetable Samples Using Liquid Solid Phase Extraction (C18, Envi®-Carb, Amino propyl)

I. Scope and Application

1. This procedure is used for isolating pesticide residues from composite fruit and vegetable samples. Residues from organochlorine, organonitrogen, organophosphate, pyrethrins and other classes of semi and non-volatile pesticides are isolated.

2. This is a general purpose method that provides an extraction procedure for the determination of organic compounds in fruits and vegetables. This method is applicable to a wide range of organic compounds that are efficiently partitioned from the fruit or vegetable sample to acetonitrile.

3. This procedure is applicable to the preparation of fruit and vegetable samples for the analysis of pesticide residues using GC/MS and HPLC.

II. Summary

Pesticide residues and surrogates are extracted from fruit and vegetable samples using acetonitrile. A 50 gram composite sample is extracted with 100 ml of acetonitrile, followed by a salting out step. Coextractives are removed by passing the acetonitrile extract through a C18 solid phase extraction clean-up cartridge. The acetonitrile extract is clean-up further by passing through a carbon cartridge coupled to an amino propyl cartridge. The sample extract is transferred to a concentrator tube and placed in the Turbo Vap® and concentrated to 1 ml. A solvent exchange is performed using acetone and the final extract volume is 1.0 ml. The sample extract is stored in a freezer at -15°C until analysis.

III. Safety

1. The toxicity or carcinogenicity of each reagent used in this method has not been precisely defined; each chemical compound should be treated as a potential health hazard, and exposure to these chemicals should be minimized. Reference files of the relevant material safety data sheets (MSDS) are available to all personnel involved in chemical handling.

2. Some method analytes have been tentatively classified as known or suspected human or mammalian carcinogens. Pure standard materials and stock standard solutions of these compound should be handled with suitable protection to skin, eyes, etc.

IV. Interferences

1. Method interferences may be caused by contamination in solvents, reagents, glassware and other sample processing apparatus that to discrete artifacts or elevated baselines in chromatograms. All reagents and apparatus must be routinely demonstrated to be free from interferences under the conditions of the analysis by running laboratory reagent blanks.

2. Glassware must be scrupulously cleaned. Clean all glassware as soon as possible after use by thoroughly rinsing with the last solvent used in it. Follow by washing with hot water and detergent and thorough rinsing with tap and reagent water. Drain dry, and heat in an oven of muffle furnace at 400°C for one hour. Do not heat volumetric ware. Thorough rinsing with acetone may be substituted for the heating. After drying and cooling, seal and store glassware in a clean environment to prevent any accumulation of dust or other contaminants. Store inverted or capped with aluminum foil.

V. Equipment and Supplies

1. All glassware must be meticulously cleaned. This may be accomplished by washing with detergent and water, rinsing with water, distilled water, solvents, air-drying, and heating (where appropriate) in a muffle furnace. Volumetric glassware should never be heated to the temperatures obtained in a muffle furnace.

2. Glass pipets, various sizes (Class A).

3. Pasteur pipets, glass disposable (5 ml).

4. Volumetric flasks, various sizes.

5. Supelco SPE vacuum manifolds capable of holding at least 12 cartridges.

6. Vacuum pumps.

7. Vacuum flask, 500 ml glass flask with side arm.

8. Buchner filter funnel, 126 mm internal diameter porcelain (Coors).

9. Whatman® 42 ashless filter paper, 110 mm.

10. Waring laboratory blender.

11. 40 ml glass vials with teflon® lined caps.

12. 2 ml GC/LC glass vials with teflon® lined crimp caps.

13. Crimpers, for 2 ml vials and 50 ml serum bottles.

14. 50 ml Serum bottles with teflon® lined crimp tops.

15. Stainless steel large kitchen knife.

16. Eppendorf® pipets, 10ul – 100ul and 100ul – 1000ul, both use disposable tips.

17. 200 ml Turbo Vap® concentrator tubes, glass graduated to 1.0 ml.

18. Zymark Turbo Vap® II, 6 position workstation that concentrates samples using a temperature controlled water bath and a pressurized nitrogen flow above the sample.

19. Analytical balance, capable of weighting 0.0001 g accurately (Mettler AE240).

20. Muffle furnace capable of maintaining a temperature of 400°C.

21. Spatulas, various sizes.

22. PFTE cartridge adapters, allows stacking of SPE cartridges (International Sorbent Technology).

VI. Reagents and Standards

1. Nitrogen gas, ultra high purity.

2. Solvents, acetonitrile, acetone, toluene, ethyl acetate, and hexane. High purity pesticide quality or equivalent.

3. Sodium chloride.

4. Anhydrous sodium sulfate, granular (10-60 mesh). Baked in a muffle furnace at 400°C for a minimum of four hours.

5. C18 SPE cartridges (6 ml, 1000 mg), Baker.

6. ENVI® -Carb SPE carbon cartridges (12 ml, 1000 mg), Supelco.

7. Amino propyl SPE cartridges (6 ml, 500 mg), Isolute.

8. Surrogate spiking solution. The surrogate spiking solution is prepared in ethyl acetate and contains both triphenyl phosphate and dibutyl chlorendate. The spiking solution is prepared from neat and has a final concentration of approximately 70 ug/ml for surrogate.

9. Fortification solution. The fortification spiking solution is prepared from neat with analytes of interest and used to prepare laboratory fortified blanks and matrix spikes.

VII. Sample Preservation and Storage

1. All commodity samples should be iced or refrigerated at 4°C from the time of collection until extraction.

2. For additional information for collecting commodity samples refer to PEMS SOP entitled "New Jersey Food Monitoring and Evaluation Sampling SOP."

3. Holding Time – Commodity samples must be extracted within 7 days of collection. Sample extracts are stored in a freezer at -15°C and must be analyzed within 30 days of extraction.

VIII. Sample Preparation

1. Prepare a composite of the edible portion of the fruit or vegetable sample by carefully cutting small wedges or pieces from as many of the representative commodity. A 50 gram sample is first weighted then transferred to a blender. Homogenize the sample with 100 ml of acetonitrile for 3 minutes at low speed. Add 10 grams of sodium chloride and homogenize the sample for an additional 3 minutes at high speed.

2. Transfer the homogenized sample to a buchner funnel and filter using a

Whatman® 42 filter paper (or equivalent) into a 500 ml side arm flask. The side arm flak is attached to a vacuum pump and sufficient vacuum is applied to collect the filtrate.

3. Remove as much of the acetonitrile from the top of the filter as possible. Record the volume of the acetonitrile extract using a graduated cylinder.

4. Transfer the acetonitrile extract to a Turbo Vap® concentrator tube. Add the surrogate spiking solution to the concentrator tube. If the sample is a matrix or method blank spike, add the analyte spiking solution to the concentrator tube.

5. The temperature of the water bath in the Turbo Vap® Concentrator is set for 40°C and the pressure of the nitrogen gas set at 12 psi. The concentrator tubes containing the sample extracts are placed into the Turbo Vap® and concentrated to a volume between 8 -10 ml.

6. Condition C-18 cartridges (6ml, 1.0 gram) using 5 ml of acetonitrile. Make certain that there is a level of solvent just above the surface of the cartridge.

7. Place 40 ml vials in the SPE manifold below the C-18 cartridges to collect the eluent.

8. Transfer each sample extract to its C-18 cartridge and draw the solvent through using a light vacuum.

9. Rinse the concentrator tubes twice with approximately 1-2 ml of acetonitrile. Transfer rinse to the C-18 cartridge.

10. Rinse the C-18 cartridge with approximately 1 ml of acetonitrile.

11. Remove the 40 ml collection vials and add approximately 10 grams of anhydrous sodium sulfate (depending on the amount of water present in the sample extract) cap and shake vigorously for 20 seconds. If water is still present in the extract, add more sodium sulfate and shake again.

12. Transfer the extract to a Turbo Vap® concentrator tube, rinse the 40 ml collection vial twice with acetonitrile and transfer to the concentrator tube.

13. Place the concentrator tubes into the Turbo Vap® and concentrate the sample extracts to below 1 ml.

14. A Supelco Envi® -Carb cartridge and an Isolute® amino propyl cartridge (6 ml, 1 gram) were both conditioned, for each sample, by adding 5 ml of a acetonitrile:toluene (3:1) mixture to each cartridge. The solvent was drawn through the cartridges using a light vacuum and making certain that a solvent level was maintained above the packing.

15. Stack the Envi® -Carb cartridge on top of the amino propyl cartridge for each sample using cartridge mount adapters.

16. Place 40 ml vials for eluent collection into the SPE manifold below the stacked cartridges. Transfer the sample extract into the stacked cartridges. Use a light vacuum to draw the sample extract through the cartridges while

maintaining a level of solvent above the packing of both cartridges.

17. Elute the stacked cartridges with 20 ml of acetonitrile:toluene (3:1) mixture using a light vacuum.

18. Transfer the sample extract from the 40 ml collection vials to the Turbo® Vap concentrator tubes. Rinse the collection vials twice with acetonitrile and transfer to the concentrator tubes.

19. Place the concentrator tubes into the Turbo® Vap and concentrate the sample extracts down to a final volume of 1 ml. Add 10 ml of acetone to each concentrator tube.

20. Concentrate the sample extracts again down to 1 ml and then transfer 10 ml of additional acetone to each concentrator tube.

21. Concentrate the sample extracts to just below 1 ml and then bring up to a final volume of 1.0 using acetone. The sample extract is now ready for a GC/MS analysis. If an HPLC analysis is also required, transfer exactly 0.5 ml of the sample extract to a new concentrator tube along with 10 ml of acetonitrile. If only an HPLC analysis is required, transfer 10 ml of acetonitrile to the concentrator tube.

22. Place the concentrator tubes into the Turbo® Vap and concentrate the sample extracts again down to 1 ml and then transfer 10 ml of additional acetonitrile to each concentrator tube.

23. Concentrate the sample extracts to just below 1 ml and then bring up to a final volume of 1.0 ml using acetonitrile. The HPLC extract is now ready for analysis.

IX. Quality Control

1. A method blank (acetonitrile) must be prepared and analyzed any time samples are extracted regardless of the number. The method blank represents the control sample so it is extracted along with the other samples using the same solvents and chemical reagents.

2. Blank spikes and spike duplicates are prepared using acetonitrile and extracted along with the submitted samples. The frequency of blank spikes and spike duplicates will be at a minimum 5% of all the commodity samples submitted for analysis.

3. Matrix spikes and spike duplicates are prepared from various fruits and vegetables and extracted along with the submitted samples. A matrix spike and spike duplicate will be prepared at least once for each type of commodity submitted for analysis. The frequency of matrix spikes and spike duplicates will be at a minimum 5% of all the commodity samples submitted for analysis.

4. All commodity samples, blanks, and spikes are fortified with surrogates.

5. All spikes are fortified with the targeted analytes of interest.

X. Reporting

1. Commodity sample preparation is recorded in the appropriate laboratory notebooks arranged in chronological order.

2. The sample laboratory and field identification numbers and submission date are entered into the Pesticide Laboratory database. Reportable data under this SOP include:

    a. Date of preparation of the sample,
    b. Name of the chemist performing the sample preparation;
    c. Initial weight of the sample;
    d. Solvent used and the final extract volume;
    e. Concentration of the surrogate compound(s) used to fortify each sample;
    f. Concentration of the pesticide analyte(s) used to fortify the spike and spike duplicate samples.

3. Data results for commodity samples are reported in units of ug/g (micrograms per gram) without correcting for recovery data.

XI. References

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2. Neidert, E. & Saschenbrecker, P.W. (1996), Journal of AOAC international, 79 (2), pp. 549-566.

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4. Fillion, J. Hindle, R., Lacroix, M. & Selwyn, J. (1995), Journal of AOAC international 78 (5), pp. 1252-1266.

5. Lee, S.M., Papathakis, M. L., Feng, H. M. C., Hunter, G. F. & Carr, J. E. (1991) Fresenius J. Anal. Chem. 339, pp. 376-383.

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APPENDIX D

GC/MS SCAN REPORTING LEVELS

	Pesticide	Instrument Used For Quantification	Reporting Level (µg/L)
1	Acephate	GC/MS	0.2
2	Acetochlor	GC/MS	0.07
3	Alachlor	GC/MS	0.08
4	Aldrin	GC/MS	0.08
5	Allethrin	GC/MS	** 0.1
6	Ametryne	GC/MS	0.08
7	Amidithion	GC/MS	** 0.1
8	Aminocarb	HPLC	** 0.1
9	Amitraz	GC/MS	** 0.1
10	Anilazine	GC/MS	** 0.1
11	Anthraquinone	GC/MS	** 0.1
12	Aramite	GC/MS	** 0.1
13	Atraton	GC/MS	0.08
14	Atrazine	GC/MS	0.08
15	Azamethiphos	GC/MS	** 0.1
16	Azinphos ethyl	GC/MS	** 0.1
17	Azinphos methyl	GC/MS	0.2
18	Aziprotryne	GC/MS	** 0.1
19	Azobenzene	GC/MS	** 0.1
20	Barban	GC/MS	** 0.1
21	Benalaxyl	GC/MS	** 0.1
22	Bendiocarb	HPLC	** 0.1
23	Benfluralin	GC/MS	0.1
24	Benodanil	GC/MS	** 0.1
25	Bentazone	HPLC	** 0.1
26	Benzoylprop ethyl	GC/MS	** 0.1
27	a-BHC	GC/MS	0.08
28	ß-BHC	GC/MS	0.08
29	d-BHC	GC/MS	0.08
30	?-BHC (Lindane)	GC/MS	0.08
31	Bifenox	GC/MS	** 0.1
32	Bifenthrin	GC/MS	0.08
33	Biphenyl	GC/MS	** 0.1
34	Bitertanol	GC/MS	** 0.1
35	Bromacil	GC/MS	0.08
36	7-brom-5-chlor-8-hydroxychinolin	HPLC	
37	Bromocyclen	GC/MS	** 0.1
38	Bromophos	GC/MS	** 0.1
39	Bromophos ethyl	GC/MS	** 0.1
40	Bromopropylate	GC/MS	** 0.1
41	Bupirimate	GC/MS	** 0.1
42	Butachlor	GC/MS	0.08
43	Butralin	GC/MS	** 0.1
44	Buturon	GC/MS	** 0.1
45	Butylate	GC/MS	** 0.1

	Pesticide	Instrument Used For Quantification		Reporting Level (µg/L)
46	Captan	HPLC	**	0.1
47	Captafol	GC/MS	**	0.1
48	Carbaryl	HPLC	**	0.1
49	Carbetamide	GC/MS	**	0.1
50	Carbofuran	GC/MS		0.08
51	Carbophenothion	GC/MS	**	0.1
52	Carboxin	GC/MS		0.08
53	Chloraniformethan	GC/MS	**	0.1
54	Chlorbenside	GC/MS	**	0.1
55	Chlorbromuron	GC/MS	**	0.1
56	Chlorbufam	GC/MS	**	0.1
57	Chlordane	GC/MS		0.4
58	Chlordimeform	GC/MS	**	0.1
59	Chlorfenprop methyl	GC/MS	**	0.1
60	Chlorfenson	GC/MS	**	0.1
61	Chlorfenvinphos	GC/MS	**	0.1
62	Chloridazon	GC/MS	**	0.1
63	Chlormephos	GC/MS	**	0.1
64	Chlorobenzilate	GC/MS	**	0.1
65	Chloroneb	GC/MS	**	0.1
66	Chloropropylate	GC/MS	**	0.1
67	Chlorothalonil	GC/MS		0.08
68	Chlorpropham	GC/MS	**	0.1
69	Chlorpyrifos	GC/MS		0.08
70	Chlorpyrifos methyl	GC/MS	**	0.1
71	Chlorthal dimethyl	GC/MS	**	0.1
72	Chlorthiamid	GC/MS	**	0.1
73	Chlorthion	GC/MS	**	0.1
74	Chlorthiophos	GC/MS	**	0.1
75	Chlozolinate	GC/MS	**	0.1
76	Clomazone	GC/MS		0.1
77	Coumachlor	GC/MS		
78	Coumaphos	GC/MS	**	0.1
79	Crotoxyphos	GC/MS	**	0.1
80	Crufomate	GC/MS	**	0.1
81	Cyanazine	GC/MS		0.08
82	Cyanofenphos	GC/MS	**	0.1
83	Cyanophos	GC/MS	**	0.1
84	Cycloate	GC/MS		0.08
85	Cycluron	GC/MS	**	0.1
86	Cyfluthrin	GC/MS		0.1
87	?-Cyhalothrin	GC/MS		0.1
88	Cypermethrin	GC/MS		0.1
89	2,4'-DDD	GC/MS	**	0.1
90	4,4'-DDD	GC/MS		0.08
91	2,4'-DDE	GC/MS	**	0.1

	Pesticide	Instrument Used For Quantification		Reporting Level (µg/L)
92	4,4'-DDE	GC/MS		0.08
93	2,4'-DDT	GC/MS	**	0.1
94	4,4'-DDT	GC/MS		0.08
95	DEF	GC/MS		0.08
96	Demephion	GC/MS	**	0.1
97	Demeton	GC/MS	**	0.1
98	Demeton-S-methyl	GC/MS	**	0.1
99	Des ethyl atrazine	GC/MS		0.07
100	Des isopropyl atrazine	GC/MS		0.4
101	Desmetryn	GC/MS	**	0.1
102	Dialifos	GC/MS	**	0.1
103	Di-allate	GC/MS	**	0.1
104	Diazinon	GC/MS		0.08
105	Dichlobenil	GC/MS	**	0.1
106	Dichlofenthion	GC/MS	**	0.1
107	Dichlofluanid	GC/MS	**	0.1
108	Dichlone	GC/MS	**	0.1
109	2,3-Dichloranilin	GC/MS	**	0.1
110	2,5-Dichloranilin	GC/MS	**	0.1
111	4,4'-Dichlorobenzophenone	GC/MS	**	0.1
112	Dichlorvos	GC/MS		0.08
113	Diclobutrazol	GC/MS	**	0.1
114	Diclofop methyl	GC/MS	**	0.1
115	Dicloran	GC/MS	**	0.1
116	Dicofol	GC/MS		0.1
117	Dicrotophos	GC/MS	**	0.1
118	Dieldrin	GC/MS		0.08
119	Dimefox	GC/MS	**	0.1
120	Dimethachlor	GC/MS	**	0.1
121	Dimethametryn	GC/MS	**	0.1
122	Dimethipin	GC/MS	**	0.1
123	Dimethoate	GC/MS		0.4
124	Dioxathion	GC/MS	**	0.1
125	Diphenamid	GC/MS		0.08
126	Dipropetryn	GC/MS	**	0.1
127	Disulfoton	GC/MS		0.08
128	Endosulfan I	GC/MS		0.08
129	Endosulfan II	GC/MS		0.08
130	Endosulfan sulfate	GC/MS		0.08
131	Endrin	GC/MS		0.08
132	Endrin aldehyde	GC/MS		0.08
133	Endrin ketone	GC/MS		0.08
134	EPTC	GC/MS		0.08
135	Esfenvalerate	GC/MS		0.2
136	Etaconazole	GC/MS	**	0.1

	Pesticide	Instrument Used For Quantification		Reporting Level (µg/L)
137	Ethalfuralin	GC/MS	**	0.1
138	Ethoprop	GC/MS		0.08
139	Ethiolate	GC/MS	**	0.1
140	Ethion	GC/MS	**	0.1
141	Ethofumesate	GC/MS	**	0.1
142	Ethoprophos	GC/MS	**	0.1
143	Etridiazole	GC/MS	**	0.1
144	Etrimfos	GC/MS	**	0.1
145	Ethyl Parathion	GC/MS		0.08
146	Fenamiphos	GC/MS		0.08
147	Fenarimol	GC/MS		0.2
148	Fenazaflor	GC/MS	**	0.1
149	Fenchlorphos	GC/MS	**	0.1
150	Fenitrothion	GC/MS	**	0.1
151	Fenpropimorph	GC/MS	**	0.1
152	Fenson	GC/MS	**	0.1
153	Fensulfothion	GC/MS	**	0.1
154	Fenthion	GC/MS	**	0.1
155	Fenvalerate	GC/MS		0.2
156	Flamprop isopropyl	GC/MS	**	0.1
157	Fluazifop-p-butyl	GC/MS	**	0.1
158	Flubenzimine	GC/MS	**	0.1
159	Flumetralin	GC/MS	**	0.1
160	Fluometuron	GC/MS	**	0.1
161	Fluorodifen	GC/MS	**	0.1
162	Fluridone	GC/MS		0.2
163	Flurochloridone	GC/MS	**	0.1
164	Folpet	GC/MS	**	0.1
165	Fonofos	GC/MS	**	0.1
166	Formothion	GC/MS	**	0.1
167	Heptachlor	GC/MS		0.08
168	Heptachlor epoxide	GC/MS		0.08
169	Heptenophos	GC/MS	**	0.1
170	Hexabrombenzol			
171	Hexachlorobenzene	GC/MS	**	0.1
172	Hexachlorophene	GC/MS	**	0.1
173	Hexazinone	GC/MS		0.08
174	Imazalil	GC/MS	**	0.1
175	Iodofenphos	GC/MS	**	0.1
176	Ioxinyl	GC/MS	**	0.1
177	Iprodione	HPLC	**	0.1
178	Isazofos	GC/MS	**	0.1
179	Isocarbamid	GC/MS	**	0.1
180	Isofenphos	GC/MS		0.1
181	Isomethiozin	GC/MS	**	0.1
182	Isopropalin	GC/MS	**	0.1

	Pesticide	Instrument Used For Quantification		Reporting Level (µg/L)
183	Lenacil	GC/MS	**	0.1
184	Malaoxon	GC/MS	**	0.1
185	Malathion	GC/MS		0.08
186	Mecarbam	GC/MS	**	0.1
187	Metalaxyl	GC/MS		0.08
188	Metamitron	HPLC	**	0.1
189	Metazachlor	HPLC	**	0.1
190	Methacrifos	GC/MS	**	0.1
191	Methamidophos	GC/MS	**	0.1
192	Methazole	GC/MS	**	0.1
193	Methidathion	GC/MS	**	0.1
194	Methoprotryne	GC/MS	**	0.1
195	Methoxychlor	GC/MS		0.08
196	Methyl Parathion	GC/MS		0.08
197	Metolachlor	GC/MS		0.08
198	Metribuzin	GC/MS		0.08
199	Mevinphos	GC/MS		0.08
200	Mirex	GC/MS		0.08
201	MGK-264	GC/MS		0.08
202	Molinate	GC/MS		0.08
203	Monalide	GC/MS	**	0.1
204	Monocrotophos	GC/MS	**	0.1
205	Monolinuron	HPLC	**	0.1
206	Myclobutanil	GC/MS		0.3
207	Naled	GC/MS	**	0.1
208	Napropamide	GC/MS		0.08
209	Nitralin	GC/MS	**	0.1
210	Nirapyrin	GC/MS	**	0.1
211	Nitrofen	GC/MS	**	0.1
212	Nitrothal isopropyl	GC/MS	**	0.1
213	Norflurazon	GC/MS		0.5
214	Nuarimol	GC/MS	**	0.1
215	Omethoate	GC/MS	**	0.1
216	Oryzalin	HPLC		0.5
217	Oxadiazon	GC/MS	**	0.1
218	Oxadixyl	GC/MS	**	0.1
219	Oxycarboxin	GC/MS	**	0.1
220	Oxydemeton methyl	GC/MS	**	0.1
221	Paraoxon	GC/MS	**	0.1
222	Pebulate (Tillam)	GC/MS		0.08
223	Penconazole	GC/MS	**	0.1
224	Pendimethalin	GC/MS		0.08
225	Pentachlorobenzene	GC/MS	**	0.1
226	Pentanochlor	GC/MS	**	0.1
227	Permethrin	GC/MS		0.1
228	Perthane	GC/MS	**	0.1

	Pesticide	Instrument Used For Quantification		Reporting Level (µg/L)
229	Phenkapton	GC/MS	**	0.1
230	Phenthoate	GC/MS	**	0.1
231	Phorate	GC/MS	**	0.1
232	Phosalone	GC/MS	**	0.1
233	Phosmet	GC/MS		0.08
234	Phosphamidon	GC/MS	**	0.1
235	Phoxim	GC/MS	**	0.1
236	Pindone	GC/MS	**	0.1
237	Piperonyl butoxide (PBO)	GC/MS		0.09
238	Pirimiphos ethyl	GC/MS	**	0.1
239	pirimiphos methyl	GC/MS	**	0.1
240	Prochloraz	GC/MS	**	0.1
241	Procymidone	GC/MS	**	0.1
242	Prodiamine	GC/MS		0.08
243	Profenophos	GC/MS	**	0.1
244	Profluralin	GC/MS	**	0.1
245	Prometon	GC/MS		0.08
246	Prometryne	GC/MS		0.08
247	Pronamide	GC/MS		0.08
248	Propachlor	GC/MS	**	0.1
249	Propanil	GC/MS	**	0.1
250	Propargite	GC/MS	**	0.1
251	Propazine	GC/MS	**	0.1
252	Propetamphos	GC/MS		0.1
253	Propham	GC/MS	**	0.1
254	Propiconazole	GC/MS		0.07
255	Propoxur	HPLC	**	0.1
256	Propyzamide	GC/MS	**	0.1
257	Prothiofos	GC/MS	**	0.1
258	Prothoate	GC/MS	**	0.1
259	Pyrazophos	GC/MS	**	0.1
260	Pyriproxyfen	GC/MS		0.1
261	Pyroquilon	GC/MS	**	0.1
262	Quinalphos	GC/MS	**	0.1
263	Quinomethionate	GC/MS	**	0.1
264	Quintozene	GC/MS	**	0.1
265	Secbumeton	GC/MS	**	0.1
266	Simazine	GC/MS		0.08
267	Simetryn	GC/MS		0.08
268	Stirofos	GC/MS		0.08
269	Sulfotep	GC/MS	**	0.1
270	Sulprofos	GC/MS	**	0.1
271	Tebutam	GC/MS	**	0.1
272	Tebuthiuron	GC/MS		0.08
273	Tecnazene	GC/MS	**	0.1

	Pesticide	Instrument Used For Quantification	Reporting Level (µg/L)
274	Terbacil	GC/MS	0.08
275	Terbufos	GC/MS	0.08
276	Terbumeton	GC/MS	** 0.1
277	Terbuthylazine	GC/MS	** 0.1
278	Terbutryne	GC/MS	0.08
279	Tetradifon	GC/MS	** 0.1
280	Tetramethrin	GC/MS	0.1
281	Tetrasul	GC/MS	** 0.1
282	Thiabendazole	GC/MS	** 0.1
283	Thiometon	GC/MS	** 0.1
284	Thionazin	GC/MS	** 0.1
285	Tolclofos methyl	GC/MS	** 0.1
286	TolylFluanid	GC/MS	** 0.1
287	Triadimefon	GC/MS	0.08
288	Tri-allate	GC/MS	** 0.1
289	Triamiphos	GC/MS	** 0.1
290	Triazophos	GC/MS	** 0.1
291	Tricloronat	GC/MS	** 0.1
292	Tricyclazole	GC/MS	** 0.1
293	Tridiphane	GC/MS	** 0.1
294	Trietazine	GC/MS	** 0.1
295	Trifluralin	GC/MS	0.08
296	Vamidothion	GC/MS	** 0.1
297	Vernolate	GC/MS	0.08
298	Vinclozolin	GC/MS	0.08

** North Carolina State University broad scan GC/MS detection limits.

APPENDIX E

NJFMEP RESULTS SOP

New Jersey Food Monitoring and Evaluation Program

Results Letters/Follow-Up SOP

An important component of the New Jersey Food Monitoring and Evaluation Program (NJFMEP) is to provide sample results in a timely manner to the individual from whom the sample was obtained. Once the analytical results are finalized (QA/QC review completed), they will be reviewed by the NJFMEP Coordinator.
If the residues detected are in compliance (i.e. below any applicable EPA Tolerance or FDA Action Level), a letter will be sent to the collection site contact indicating the commodity collected, residues detected (if any) and the concentration, and the associated Tolerance or Action Level.
If a residue is out of compliance, PEMs will discuss the results with the Bureau of Pesticide Compliance (BPC) contact person before any action is taken. Results will be discussed on a case by case basis.

Non-compliance will be defined by the following levels:

Level 1 - A current use or historical pesticide is clearly above the applicable Tolerance or Action Level.
Level 2 - A current use pesticide is detected on a commodity and it is not currently labeled for use on that commodity.
Level 3 - A historical pesticide (environmental contaminant) is detected on a commodity and there is no associated Tolerance or Action Level.

BPC will decide whether or not an enforcement investigation is warranted. If no investigation is warranted, the results letter prepared by the NJFMEP Coordinator will be sent directly to the site contact. If an investigation is warranted, all information regarding the sample(s) will be turned over to BPC in a file prepared by the NJFMEP Coordinator. The results letter prepared by the NJFMEP Coordinator will be hand-delivered by BPC during the investigation.

If the results are turned over to BPC, the guidelines for a timely investigation of non-compliant samples will be as follows:
Level 1 - Enforcement response within 15 days
Level 2 - Enforcement response within 30 days
Level 3 - Enforcement response within 60 days

If there is no enforcement response initiated within the specified guidelines, the NJFMEP Coordinator will send a results letter to the site contact indicating that their results are out of compliance and an enforcement investigation may occur in the future. If the collection site and the grower are **not** the same, the letter will indicate that the grower will be targeted for follow-up whenever possible.

Note: Regardless of whether or not an enforcement investigation is initiated, PEMs will collect a check-up sample the following growing season for any non-compliant samples.

APPENDIX F

NJFMEP SAMPLE RESULTS 2000-2003

New Jersey Food Monitoring & Evaluation Program
2000 Results

Lab Control ID	Commodity	NJGrown	Collection Date	Analyte	Concentration (ug/g)	Tolerance (ppm)
FQ21	Apples	Yes	10/10/00	Scan	Not Detected	--
FQ22	Apples	Yes	10/10/00	Scan	Not Detected	--
FQ23	Apples	Yes	10/10/00	Scan	Not Detected	--
FQ16	Apples	No	9/12/00	Scan	Not Detected	--
FQ20	Apples	No	9/12/00	Scan	Not Detected	--
FQ24	Apples	No	10/23/00	Scan	Not Detected	--
FQ2	Blueberries	Yes	7/18/00	Scan	Not Detected	--
FQ3	Blueberries	Yes	7/18/00	Scan	Not Detected	--
FQ5	Blueberries	Yes	7/18/00	Scan	Not Detected	--
FQ12	Blueberries	Yes	8/8/00	Chlorothalonil	0.008	1
FQ13	Blueberries	Yes	8/8/00	Scan	Not Detected	--
FQ8	Peaches	Yes	8/2/00	Scan	Not Detected	--
FQ7	Peaches	Yes	8/2/00	Scan	Not Detected	--
FQ10	Peaches	Yes	8/8/00	Scan	Not Detected	--
FQ14	Peaches	Yes	9/5/00	Chlorothalonil	0.0021	0.5
				Vinclozolin	0.29	25
FQ15	Peaches	Yes	9/5/00	Scan	Not Detected	--
FQ6	Peaches	No	8/2/00	Scan	Not Detected	--
FQ1	Tomatoes	Yes	7/18/00	Lamda-cyhalothrin	0.026	0.1
FQ4	Tomatoes	Yes	7/18/00	Chlorothalonil	0.011	5
FQ9	Tomatoes	Yes	8/2/00	Lamda-cyhalothrin	0.023	0.1
				Chlorothalonil	0.019	5
FQ11	Tomatoes	Yes	8/8/00	Chlorothalonil	0.004	5
FQ17	Tomatoes	Yes	9/12/00	Chlorothalonil	0.007	5
FQ18	Tomatoes	Yes	9/12/00	Lamda-cyhalothrin	0.016	0.1
FQ19	Tomatoes	Yes	9/12/00	Chlorothalonil	0.46	5

New Jersey Food Monitoring & Evaluation Program
2001 Results

Lab Control ID	Commodity	NJGrown	Collection Date	Analyte	Concentration (ug/g)	Tolerance (ppm)
FQ121	Apples	Yes	10/19/01	Captan	Identified	25
FQ123	Apples	Yes	10/23/01	GC/MS Scan	Not Detected	--
FQ124	Apples	Yes	10/23/01	GC/MS Scan	Not Detected	--
FQ125	Apples	Yes	10/23/01	GC/MS Scan	Not Detected	--
FQ127	Apples	Yes	10/23/01	GC/MS Scan	Not Detected	--
FQ128	Apples	Yes	11/2/01	Chlorpyrifos	0.0033	1.5
				Phosmet	0.0066	10
				Captan	Identified	25
FQ130	Apples	Yes	11/2/01	Phosmet	0.077	10
				Captan	Identified	25
FQ26	Asparagus	Yes	5/31/01	GC/MS Scan	Not Detected	--
FQ29	Asparagus	Yes	5/31/01	Bifenthrin	Identification Confirmed	*
FQ34	Asparagus	Yes	6/5/01	Bifenthrin	Identification Confirmed	*
FQ35	Asparagus	Yes	6/6/01	GC/MS Scan	Not Detected	--
FQ44	Blueberries	Yes	7/2/01	GC/MS Scan	Not Detected	--
FQ47	Blueberries	Yes	7/5/01	GC/MS Scan	Not Detected	--
FQ61	Blueberries	Yes	7/18/01	GC/MS Scan	Not Detected	--
FQ53	Blueberries	No	7/12/01	Dieldrin	0.023	*
FQ57	Blueberries	No	7/13/01	GC/MS Scan	Not Detected	--
FQ32	Cherries	No	6/5/01	GC/MS Scan	Not Detected	--
FQ48	Cherries	No	7/5/01	Fenarimol	0.012	1
FQ50	Cherries	No	7/5/01	GC/MS Scan	Not Detected	--
FQ65	Cucumbers	Yes	7/19/01	GC/MS Scan	Not Detected	--
FQ68	Cucumbers	Yes	7/19/01	Dieldrin	0.0036	0.1[AL]
FQ75	Cucumbers	Yes	7/30/01	GC/MS Scan	Not Detected	--
FQ52	Cucumbers	No	7/12/01	Phosmet	0.0057	*
FQ59	Cucumbers	No	7/18/01	Dieldrin	0.0073	0.1[AL]
FQ72	Cucumbers	No	7/19/01	Dieldrin	0.032	0.1[AL]
FQ111	Cucumbers	No	9/13/01	Dieldrin	0.0068	0.1[AL]
FQ85	Eggplant	Yes	8/13/01	GC/MS Scan	Not Detected	--
FQ91	Eggplant	Yes	8/17/01	GC/MS Scan	Not Detected	--
FQ93	Eggplant	Yes	8/17/01	GC/MS Scan	Not Detected	--
FQ94	Eggplant	Yes	8/29/01	GC/MS Scan	Not Detected	--
FQ97	Eggplant	Yes	8/29/01	Esfenvalerate	0.005	1
FQ103	Eggplant	Yes	9/6/01	GC/MS Scan	Not Detected	--
FQ105	Eggplant	No	9/6/01	Bifenthrin	0.007	0.05
FQ107	Eggplant	No	9/6/01	GC/MS Scan	Not Detected	--
FQ112	Eggplant	No	9/19/01	GC/MS Scan	Not Detected	--

New Jersey Food Monitoring & Evaluation Program
2001 Results

Lab Control ID	Commodity	NJGrown	Collection Date	Analyte	Concentration (ug/g)	Tolerance (ppm)
FQ38	Lettuce	Yes	6/6/01	Dacthal	Identification Confirmed	2.0
				Lamda-cyhalothrin	0.012	2.0
FQ41	Lettuce	Yes	6/25/01	DDT, 4,4'-	0.0057	0.5[AL]
				DDE, 4,4'-	0.0057	0.5[AL]
FQ31	Lettuce	No	6/5/01	GC/MS Scan	Not Detected	--
FQ49	Lettuce	No	7/5/01	Ethyl Parathion	0.0081	1
FQ46	Onions	No	7/2/01	GC/MS Scan	Not Detected	--
FQ56	Onions	No	7/13/01	GC/MS Scan	Not Detected	--
FQ58	Onions	No	7/13/01	GC/MS Scan	Not Detected	--
FQ63	Onions	No	7/18/01	GC/MS Scan	Not Detected	--
FQ74	Peaches	Yes	7/19/01	Phosmet	0.76	10
				Captan	Identified	50
FQ81	Peaches	Yes	8/8/01	Phosmet	0.27	10
				Captan	Identified	50
FQ88	Peaches	Yes	8/13/01	Phosmet	0.063	10
				Azinphos-methyl	0.011	2
				Captan	Identified	50
FQ90	Peaches	Yes	8/17/01	Phosmet	0.016	10
				Captan	Identified	50
				Carbaryl	Identified	10
FQ92	Peaches	Yes	8/17/01	Captan	Identified	50
FQ92	Peaches	Yes	8/17/01	Chlorothalonil	0.0048	0.5
FQ101	Peaches	Yes	9/5/01	Captan	Identified	50
FQ54	Peaches	No	7/12/01	GC/MS Scan	Not Detected	--
FQ110	Peaches	No	9/13/01	Captan	Identified	50
FQ64	Peppers	Yes	7/19/01	Endosulfan II	0.017	2
				Dieldrin	0.031	0.05[AL]
				Endosulfan I	0.0051	2
				Chlorothalonil	0.029	5.0
FQ69	Peppers	Yes	7/19/01	Lamda-cyhalothrin	0.029	*
FQ77	Peppers	Yes	7/30/01	GC/MS Scan	Not Detected	--
FQ78	Peppers	Yes	7/31/01	GC/MS Scan	Not Detected	--
FQ86	Peppers	Yes	8/13/01	GC/MS Scan	Not Detected	--
FQ89	Peppers	Yes	8/13/01	Chlorothalonil	0.0041	5.0
FQ99	Peppers	Yes	9/5/01	GC/MS Scan	Not Detected	--
FQ102	Peppers	Yes	9/6/01	GC/MS Scan	Not Detected	--
FQ104	Peppers	No	9/6/01	GC/MS Scan	Not Detected	--
FQ106	Peppers	No	9/6/01	GC/MS Scan	Not Detected	--
FQ113	Peppers	No	9/19/01	GC/MS Scan	Not Detected	--
FQ122	Potatoes	Yes	10/19/01	DDE, 4,4'-	0.0027	1.0[AL]

New Jersey Food Monitoring & Evaluation Program
2001 Results

Lab Control ID	Commodity	NJGrown	Collection Date	Analyte	Concentration (ug/g)	Tolerance (ppm)
FQ37	Squash	Yes	6/6/01	GC/MS Scan	Not Detected	--
FQ45	Squash	Yes	7/2/01	GC/MS Scan	Not Detected	--
FQ51	Squash	Yes	7/5/01	DDT, 4,4'-	0.0024	0.1[AL]
FQ108	Squash	Yes	9/13/01	Dieldrin	0.0036	0.1[AL]
FQ109	Squash	Yes	9/13/01	Dieldrin	0.042	0.1[AL]
FQ39	Squash	No	6/25/01	GC/MS Scan	Not Detected	--
FQ40	Squash	No	6/25/01	Dieldrin	0.016	0.1[AL]
FQ114	Squash	No	9/19/01	GC/MS Scan	Not Detected	--
FQ115	Squash	No	9/19/01	GC/MS Scan	Not Detected	--
FQ25	Strawberries	Yes	5/31/01	GC/MS Scan	Not Detected	--
FQ27	Strawberries	Yes	5/31/01	Dacthal	Identification Confirmed	2.0
FQ28	Strawberries	Yes	5/31/01	Bifenthrin	Identification Confirmed	3.0
FQ33	Strawberries	Yes	6/5/01	Bifenthrin	Identification Confirmed	3.0
				Endosulfan II	0.023	2.0
FQ30	Strawberries	No	6/5/01	Chlorothalonil	0.042	*
				Bifenthrin	Identification Confirmed	3.0
				Endosulfan II	0.018	2.0
FQ36	Strawberries	No	6/6/01	Bifenthrin	Identification Confirmed	3.0
FQ87	Sweet Corn	Yes	8/13/01	GC/MS Scan	Not Detected	--
FQ83	Sweet Corn	Yes	8/8/01	GC/MS Scan	Not Detected	--
FQ118	Sweet Corn	Yes	9/25/01	GC/MS Scan	Not Detected	--
FQ96	Sweet Corn	Yes	8/29/01	GC/MS Scan	Not Detected	--
FQ95	Sweet Corn	Yes	8/29/01	GC/MS Scan	Not Detected	--
FQ73	Sweet Corn	Yes	7/19/01	GC/MS Scan	Not Detected	--
FQ70	Sweet Corn	Yes	7/19/01	GC/MS Scan	Not Detected	--
FQ66	Sweet Corn	Yes	7/19/01	GC/MS Scan	Not Detected	--
FQ62	Sweet Corn	Yes	7/18/01	GC/MS Scan	Not Detected	--
FQ60	Sweet Corn	Yes	7/18/01	GC/MS Scan	Not Detected	--
FQ42	Sweet Corn	Yes	7/2/01	GC/MS Scan	Not Detected	--
FQ116	Sweet Corn	No	9/19/01	GC/MS Scan	Not Detected	--
FQ55	Sweet Corn	No	7/12/01	GC/MS Scan	Not Detected	--
FQ120	Sweet Potatoes	Yes	10/19/01	DDE, 4,4'-	0.0040	1.0[AL]
FQ129	Sweet Potatoes	No	11/2/01	GC/MS Scan	Not Detected	--

New Jersey Food Monitoring & Evaluation Program
2001 Results

Lab Control ID	Commodity	NJGrown	Collection Date	Analyte	Concentration (ug/g)	Tolerance (ppm)
FQ43	Tomatoes	Yes	7/2/01	Lamda-cyhalothrin	0.008	0.1
FQ67	Tomatoes	Yes	7/19/01	Chlorothalonil	0.011	5
FQ71	Tomatoes	Yes	7/19/01	GC/MS Scan	Not Detected	--
FQ76	Tomatoes	Yes	7/30/01	GC/MS Scan	Not Detected	--
FQ79	Tomatoes	Yes	7/31/01	Endosulfan II	0.0070	2.0
FQ80	Tomatoes	Yes	7/31/01	GC/MS Scan	Not Detected	--
FQ82	Tomatoes	Yes	8/8/01	Chlorothalonil	0.020	5
				Diazinon	0.0017	0.75
FQ84	Tomatoes	Yes	8/8/01	GC/MS Scan	Not Detected	--
FQ98	Tomatoes	Yes	9/5/01	Chlorothalonil	0.029	5
FQ100	Tomatoes	Yes	9/5/01	Bifenthrin	0.0058	*
				Chlorothalonil	0.0035	5
FQ117	Tomatoes	Yes	9/25/01	Bifenthrin	0.0051	*
				Chlorothalonil	0.0034	5
FQ119	Tomatoes	Yes	10/19/01	Chlorothalonil	0.091	5

* Compound not currently labeled for use with this commodity. Turned over the Bureau of Pesticide Compliance for further investigation.

AL - Action Level estblished by FDA.

Lab Control ID	Commodity	NJGrown	Collection Date	Analyte	Concentration (ug/g)	Tolerance (ppm)
FQ262	Apples	Yes	10/18/02	None Detected	--	--
FQ204	Apples	No	5/10/02	Phosmet	0.018	10.0
FQ251	Apples	No	9/24/02	None Detected	--	--
FQ205	Apples	No	5/10/02	None Detected	--	--
FQ259	Apples	No	10/9/02	None Detected	--	--
FQ201	Asparagus	Yes	5/2/02	None Detected	--	--
FQ202	Asparagus	Yes	5/2/02	None Detected	--	--
FQ206	Asparagus	Yes	5/21/02	Permethrin	Identified	1.0
FQ207	Asparagus	Yes	5/21/02	None Detected	--	--
FQ210	Asparagus	Yes	5/31/02	None Detected	--	--
FQ211	Asparagus	Yes	5/31/02	Bifenthrin	0.007	*
FQ213	Asparagus	Yes	6/7/02	None Detected	--	--
FQ216	Asparagus	Yes	6/13/02	DDE, 4,4'-	0.006	*
FQ228	Asparagus	Yes	7/3/02	None Detected	--	--
FQ203	Asparagus	No	5/10/02	None Detected	--	--
FQ217	Blueberries	Yes	6/13/02	Phosmet	0.031	10.0
FQ218	Blueberries	Yes	6/14/02	None Detected	--	--
FQ229	Blueberries	Yes	7/8/02	Captan	--	--
FQ231	Blueberries	Yes	7/8/02	Phosmet	0.14	10.0
				Captan	Identified	25.0
FQ237	Blueberries	Yes	8/12/02	Phosmet	0.032	10.0
FQ249	Broccoli	Yes	9/12/02	Chlorothalonil	0.016	5.0
				Esfenvalerate	0.019	2.0
FQ263	Broccoli	Yes	10/31/02	None Detected	--	--
FQ265	Broccoli	Yes	10/31/02	None Detected	--	--
FQ266	Cauliflower	Yes	10/31/02	None Detected	--	--
FQ223	Cherries	Yes	6/25/02	None Detected	--	--
FQ238	Cucumbers	Yes	8/12/02	None Detected	--	--
FQ242	Cucumbers	Yes	8/23/02	Dieldrin	0.038	0.1[AL]
FQ248	Cucumbers	Yes	9/12/02	Chlorothalonil	0.031	5.0
				Esfenvalerate	0.007	0.5

Lab Control ID	Commodity	NJGrown	Collection Date	Analyte	Concentration (ug/g)	Tolerance (ppm)
FQ220	Lettuce	Yes	6/21/02	Metalaxyl	0.019	5.0
				DDE, 4,4'-	0.016	0.5[AL]
				Lamda-cyhalothrin	0.031	2.0
FQ221	Lettuce	Yes	6/21/02	DDE, 4,4'-	0.008	0.5[AL]
FQ222	Lettuce	Yes	6/21/02	Bifenthrin	0.008	3.0
FQ260	Onion	No	10/9/02	None Detected	--	--
FQ233	Peppers	Yes	7/15/02	Metalaxyl	0.037	*
				Chlorothalonil	1.1	5.0
FQ234	Peppers	Yes	7/15/02	Metalaxyl	0.020	*
				Chlorothalonil	0.96	5.0
FQ235	Peppers	Yes	7/15/02	Metalaxyl	0.033	*
				Chlorothalonil	0.54	5.0
FQ261	Peppers	Yes	10/9/02	Chlorothalonil	0.010	*
FQ236	Peppers	No	7/15/02	DDE, 4,4'-	0.012	*
				Metalaxyl	0.014	*
FQ256	Peppers	No	10/1/02	None Detected	--	--
FQ224	Squash	Yes	6/25/02	Dieldrin	0.031	0.1[AL]
				Endosulfan sulfate	0.040	2.0
				Bifenthrin	0.008	0.4
				Esfenvalerate	0.17	0.5
FQ232	Squash	Yes	7/8/02	Dieldrin	0.19	0.1[AL,*]
FQ243	Squash	Yes	8/23/02	Terbacil	0.010	*
				Dieldrin	0.11	0.1[AL,*]
				DDD, 4,4'-	0.002	*
				Endosulfan sulfate	0.058	2.0
FQ244	Squash	Yes	9/4/02	None Detected	--	--
FQ254	Squash	Yes	9/24/02	None Detected	--	--

Lab Control ID	Commodity	NJGrown	Collection Date	Analyte	Concentration (ug/g)	Tolerance (ppm)
FQ208	Strawberries	Yes	5/21/02	Chlorpyrifos	0.035	0.2
				Endosulfan II	0.038	2.0
				Bifenthrin	0.050	3.0
				Captan	Identified	25.0
FQ209	Strawberries	Yes	5/31/02	Captan	Identified	25.0
				Endosulfan I	0.027	2.0
				Endosulfan II	0.049	2.0
				Endosulfan sulfate	0.017	2.0
FQ212	Strawberries	Yes	6/7/02	Endosulfan II	0.032	2.0
				Endosulfan sulfate	0.034	2.0
				Bifenthrin	0.091	3.0
				Vinclozolin	0.027	10.0
FQ214	Strawberries	Yes	6/7/02	Endosulfan II	0.023	2.0
				Endosulfan sulfate	0.034	2.0
				Bifenthrin	0.012	3.0
FQ215	Strawberries	Yes	6/13/02	None Detected	--	--
FQ219	Strawberries	No	6/14/02	Metalaxyl	0.015	10.0
FQ225	Sweet Corn	Yes	6/25/02	Bifenthrin	0.007	0.05
FQ227	Sweet Corn	Yes	6/25/02	None Detected	--	--
FQ230	Sweet Corn	Yes	7/8/02	None Detected	--	--
FQ240	Sweet Corn	Yes	8/12/02	None Detected	--	--
FQ253	Sweet Corn	Yes	9/24/02	None Detected	--	--
FQ255	Sweet Corn	Yes	9/24/02	None Detected	--	--
FQ264	Sweet Potatoes	Yes	10/31/02	Chlorothalonil	0.034	0.1
FQ258	Sweet Potatoes	No	10/9/02	None Detected	--	--
FQ226	Tomatoes	Yes	6/25/02	Chlorothalonil	0.12	5.0
				Bifenthrin	0.007	*
FQ239	Tomatoes	Yes	8/12/02	Chlorothalonil	0.28	5.0
FQ241	Tomatoes	Yes	8/23/02	None Detected	--	--
FQ245	Tomatoes	Yes	9/4/02	Chlorothalonil	0.13	5.0
				Esfenvalerate	0.016	1.0
FQ246	Tomatoes	Yes	9/4/02	Chlorothalonil	0.27	5.0
				Phosmet	0.024	*
				Bifenthrin	0.009	*
FQ247	Tomatoes	Yes	9/12/02	Chlorothalonil	0.013	5.0
FQ250	Tomatoes	Yes	9/12/02	None Detected	--	--
FQ252	Tomatoes	Yes	9/24/02	Chlorothalonil	0.81	5.0
FQ257	Tomatoes	Yes	10/1/02	Chlorothalonil	0.093	5.0
				Lamda-cyhalothrin	0.030	0.1

AL - Action Level established by FDA.

* - Results were turned over to the Bureau of Pesticide Compliance for further investigation.

New Jersey Food Monitoring & Evaluation Program
2003 Results

Lab Control ID	Commodity	NJGrown	Collection Date	Analyte	Concentration (ug/g)	Tolerance (ppm)
FQ338	Apples	Yes	9/29/03	None Detected	--	--
FQ346	Apples	Yes	10/6/03	Propiconazole	0.018	*
				Phosmet	0.094	10
FQ349	Apples	Yes	10/6/03	Azinphos-methyl	0.17	1.5
FQ352	Apples	No	10/20/03	Phosmet	0.023	10
				Azinphos-methyl	0.24	1.5
FQ359	Apples	No	10/27/03	Esfenvalerate	0.74	2
FQ360	Apples	No	10/27/03	None Detected	--	--
FQ301	Asparagus	Yes	4/28/03	Norflurazon	0.02	0.05
FQ302	Asparagus	Yes	4/28/03	None Detected	--	--
FQ303	Asparagus	Yes	5/14/03	Norflurazon	0.07	0.05**
FQ304	Asparagus	Yes	5/14/03	Propiconazole	0.009	*
FQ306	Asparagus	Yes	5/20/03	None Detected	--	--
FQ307	Asparagus	Yes	5/21/03	None Detected	--	--
FQ308	Asparagus	Yes	5/28/03	None Detected	--	--
FQ309	Asparagus	Yes	6/6/03	None Detected	--	--
FQ313	Asparagus	Yes	6/16/03	None Detected	--	--
29624	Asparagus	Yes	5/28/03	Norflurazon	0.01	0.05
29625	Asparagus	Yes	5/30/03	Norflurazon	0.02	0.05
				Bifenthrin	0.004	*
29626	Asparagus	Yes	6/16/03	None Detected	--	--
FQ317	Blueberries	Yes	7/8/03	None Detected	--	--
FQ324	Blueberries	Yes	7/23/03	Phosmet	0.014	10
FQ319	Cauliflower	Yes	7/15/03	None Detected	--	--
FQ350	Cauliflower	No	10/20/03	None Detected	--	--
FQ326	Cucumbers	Yes	7/23/03	Endosulfan I	0.025	2
				Endosulfan sulfate	0.014	2
FQ329	Cucumbers	Yes	7/23/03	None Detected	--	--
FQ337	Cucumbers	Yes	9/23/02	Chlorothalonil	0.010	5.0
				Metolachlor	0.004	*
				Metalaxyl	0.010	1.0
				4,4'-DDD	0.004	0.1[AL]
FQ332	Eggplant	Yes	8/6/03	None Detected	--	--
FQ356	Eggplant	Yes	10/27/03	None Detected	--	--

New Jersey Food Monitoring & Evaluation Program
2003 Results

Lab Control ID	Commodity	NJGrown	Collection Date	Analyte	Concentration (ug/g)	Tolerance (ppm)
FQ311	Lettuce	Yes	6/9/03	None Detected	--	--
FQ321	Lettuce	Yes	7/15/03	None Detected	--	--
FQ354	Lettuce	Yes	10/20/03	None Detected	--	--
FQ335	Onions	Yes	9/23/03	None Detected	--	--
FQ351	Onions	No	10/20/03	None Detected	--	--
FQ323	Peaches	Yes	7/23/03	None Detected	--	--
FQ330	Peaches	Yes	8/6/03	None Detected	--	--
FQ333	Peppers	Yes	8/6/03	None Detected	--	--
FQ343	Peppers	Yes	10/6/03	Lamda-cyhalothrin	0.051	0.2
				Esfenvalerate	0.053	1
FQ344	Peppers	Yes	10/6/03	None Detected	--	--
FQ353	Peppers	Yes	10/20/03	None Detected	--	--
FQ355	Peppers	Yes	10/20/03	None Detected	--	--
FQ357	Peppers	Yes	10/27/03	None Detected	--	--
FQ358	Peppers	Yes	10/27/03	None Detected	--	--
FQ348	Potatoes	Yes	10/6/03	DDE, 4,4'-	0.022	1.0[AL]
				DDT, 4,4'-	0.015	1.0[AL]
FQ314	Squash	Yes	7/8/03	Metalaxyl	0.037	1
				Endosulfan sulfate	0.073	2
FQ320	Squash	Yes	7/15/03	Metalaxyl	0.007	1
FQ322	Squash	Yes	7/15/03	None Detected	--	--
FQ328	Squash	Yes	7/23/03	Chlorothalonil	0.077	5
				Metalaxyl	0.013	1
				Dieldrin	0.025	0.1[AL]
FQ347	Squash	Yes	10/6/03	Chlorothalonil	0.10	5
				Metalaxyl	0.20	1
FQ305	Strawberries	Yes	5/20/03	Bifenthrin	0.026	3
				Carbaryl	Identified	10
				Captan	Identified	25
FQ310	Strawberries	Yes	6/9/03	None Detected	--	--
FQ312	Strawberries	Yes	6/16/03	Chlorpyrifos	0.008	0.2

				Endosulfan II	0.046	2
				Endosulfan sulfate	0.026	2

New Jersey Food Monitoring & Evaluation Program
2003 Results

Lab Control ID	Commodity	NJGrown	Collection Date	Analyte	Concentration (ug/g)	Tolerance (ppm)
FQ325	Sweet Corn	Yes	7/23/03	None Detected	--	--
FQ341	Sweet Corn	Yes	9/29/03	None Detected	--	--
FQ315	Sweet Corn	No	7/8/03	None Detected	--	--
FQ362	Sweet Potatoes	Yes	11/17/03	Chlorpropham	0.020	50
				DDE, 4,4'-	0.005	1.0[AL]
FQ327	Tomatoes	Yes	7/23/03	Azinphos-methyl	0.074	2
FQ331	Tomatoes	Yes	8/6/03	None Detected	--	--
FQ334	Tomatoes	Yes	8/6/03	None Detected	--	--
FQ339	Tomatoes	Yes	9/29/03	Chlorothalonil	0.015	5
				Bifenthrin	0.015	0.15
FQ340	Tomatoes	Yes	9/29/03	Bifenthrin	0.006	0.15
FQ342	Tomatoes	Yes	10/6/03	Chlorothalonil	0.009	5
				Lamda-cyhalothrin	0.028	0.1
				Esfenvalerate	0.036	1
FQ345	Tomatoes	Yes	10/6/03	Chlorothalonil	0.008	5
FQ316	Tomatoes	No	7/8/03	None Detected	--	--
FQ318	Tomatoes	No	7/8/03	Lamda-cyhalothrin	0.025	0.1
FQ361	Tomatoes	No	11/17/03	None Detected	--	--

*This compound is currently not labeled for use with this commodity.

**Tolerance exceedance.

[AL] Action Level established by FDA.